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IN THIS ISSUE - IN HIERDIE UITGAWE

Editorial: Van die Redaksie

Civilian Defence Burgerlike Verdediging

Original Articles: Oorspronklike Artikels

A safer technique for irrigation in cataract surgery and for other operations in the anterior chamber.

Sciatic and analogous root pains and their treatment by paravertebral injection.

A silent epidemic of poliomyelitis.

The medical profession must prepare for Civil Defence.

A review of a chronic sick hospital in the Transvaal.

Official Announcement: Amptelike Aankondiging Association News: Verenigingsnuus Training in General Practice New preparations and appliances : New preparate en toestelle Reviews of Books : Boekresensies Correspondence : Briewerubriek

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Kaapstad, 23 Januarie 1954 Weekliks 2/6

CONTENTS - INHOUD

A safer technique for irrigation in cataract surgery and for other operations in the anterior chamber. S. Adler, M.B., B.Ch. (Rand)	A Review of a Chronic Sick Hospital in the Transvaal. Gus Lange, M.D., M.R.C.P. (Edin.)	
D.O.M.S., R.C.P. and S. (Eng.)	Association News: Verenigingsnuus	73
Abstracts: Uittreksels	Official Announcement : Amptelike Aankondigings	
Editorial: Civilian Defence	Training in General Practice	74
Sciatic and analogous root pains and their treatment by para-	New Preparations and Appliances: Nuwe Preparate en Toestelle	75
vertebral injection. P. W. J. Keet, M.B., M.R.C.P., (Edin.)	Passing Events : In die Verbygaan	75
A Silent Epidemic of Poliomyelitis. H. Malherbe, M.A., M.B., B.Ch.	Reviews of Books : Boekresensies	75
The Medical Profession must prepare for Civil Defence. J. P. de Villiers, M.B., B.Ch., M.D. (Dubl.), D.P.H., R.C.P. & S. (Irel.)	Correspondence : Briewerubriek	80



SEDATION IN DYSMENORRHOEA

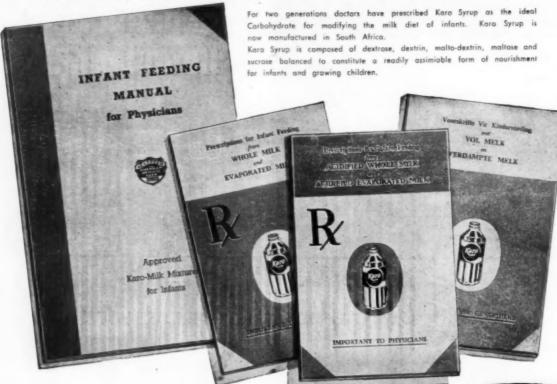
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THERE SEEM TO BE AT LEAST FIVE POSSIBILITIES

THERE SEEM TO BE AT LEAST FIVE POSSIBILITIES

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Refs. SCHWEINBURG, F.B. & RUTENBURG, A.M. Proc. Soc. Exp. Biol. Vol. 74, July. 1950.
WEINSTEIN, L. & MURPHY, E.B., Proc. Soc. Exp. Biol. Med. Vol. 80, July. 1952.

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A SAFER TECHNIQUE FOR IRRIGATION IN CATARACT SURGERY AND FOR OTHER OPERATIONS IN THE ANTERIOR CHAMBER

S. ADLER M.B., B.CH. (Rand) D.O.M.S., R.C.P. & S. (Eng.)

Johannesburg

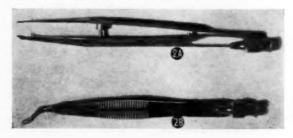
In 1886 William McKeown 1 described a method of washing out soft lens-matter from the anterior chamber by the use of a stream of distilled water and what he termed a 'scoop syringe'. Since then irrigation of the anterior chamber has become an established practice. Many instruments have been devised for this purpose, but none have succeeded in satisfactorily eliminating the hazards of trauma and infection.

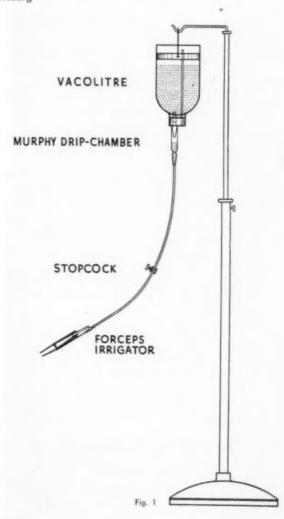
Stallard ² states that too great a pressure of fluid may 'damage the posterior capsule, the suspensory ligament, and hyaloid membrane....and so risk *prolapse of vitreous*'. He advises against persisting in the lavage for more than a minute because of the risk of *keratitis*.

Meller ³ believes that irrigation of the anterior chamber to remove particles of lens-matter 'is calculated to do more injury than good, subjecting the eye to the danger of *infection*, to *iritic irritation*, and to *iniury of corneal* endothelium, with subsequent cloudiness of the cornea.'

The writer has elaborated a simple apparatus (Fig. 1) which almost entirely eliminates the dangers inherent in previous methods. It permits irrigation and manipulation in the anterior chamber to take place in a fluid-filled cavity, even after the loss of aqueous.

The apparatus consists of a delicate force, s, one blade of which is canalized to allow the delivery of an accurately-controlled flow of sterile irrigating fluid. The 'forceps-irrigator' was improvised by soldering a lumbar-puncture needle (size 20) alongside one blade of an intracapsular forceps (Fig. 2a). The needle is connected to a vacolitre which delivers sterile normal saline via a Murphy drip-chamber under stop-cock control. The outlet of the needle is situated a few mm.





from the tip of the forceps, and the stream of fluid emerges slightly to one side and does not displace the tissue to be grasped.

The objections cited previously will be dealt with

seriatim:

1. Infection. This is reduced to a minimum, if not entirely prevented, by the use of sterile bland fluid delivered directly from a vacolitre without an intermediate receptacle.

2. Irritation of the Iris and Injury to the Corneal Endothelium. As the anterior chamber is kept filled with fluid there is very little likelihood of inflicting such

trauma.

3. Loss of Vitreous. The flow of saline is accurately adjusted before inserting the forceps-irrigator into the eye. Hence the irrigation cannot be too forceful, and the surgeon can devote his entire attention to the techni-

cal details of the operation.

Stallard² advocates that the saline should be at a temperature of 99° F. The writer has not found this precaution necessary. Irrigation at room-temperature has in no instance produced any untoward effect. The apparatus has been used as a routine for irrigating the anterior chamber in extracapsular extractions for the past 31 years with consistently gratifying results. A few remarks follow on its use in cataract surgery and

other procedures in the anterior chamber.

1. Extracapsular Cataract Extraction. expression of the lens-nucleus, soft lens-matter can be washed away with a considerable margin of safety. This is enhanced by loosely tying a central corneo-scleral suture before the insertion of the forceps-irrigator through one or other side of the incision (the writer places this suture as a routine in cataract extraction before making the initial incision). The full chamber facilitates the removal of floating remnants of anterior capsule with the forceps component. In suitable cases, if so desired, the entire capsule may be removed.

2. Intracapsular Cataract Extraction. Before the application of the intracapsular forceps it is important to wash away any blood that may be present on the lens-capsule, as this makes it slippery and difficult to grasp. This can easily be done with the non-toothed type

of forceps-irrigator.

If the anterior capsule should tear while the suspensory ligament is still intact or has been ruptured only in part, the operation may be completed as an extracapsular extraction. Especially where the cataract is immature the safety provided by the apparatus permits the maximum amount of soft lens-matter to be washed out with impunity.

3. Linear Extraction in Young Adults. For the first stage of this operation the forceps component of the instrument has been modified. It is toothed and was improvised from an extracapsular forceps (Fig. 2b). After a keratome incision the chamber is kept filled and a capsulectomy is effected. The toothed forceps-irrigator is then disconnected and the non-toothed type substituted. Soft lens-matter is then washed away. The substitution is accomplished with the minimum of delay, for the rubber tubing is fitted with an adaptor which can easily be connected to either of the instruments.

4. Removal of Blood or Pus. In total hyphaema with raised intra-ocular pressure and threatened bloodstaining of the cornea, the anterior chamber should be irrigated as above. If present, clots can be removed with the forceps. In hypopyon the forceps are equally useful

for removing coagulated pus.

5. Removal of Foreign Bodies. The apparatus is extremely useful for removing foreign bodies, particularly of non-magnetic nature. Recently it proved its worth in the removal of an eyelash firmly adherent to the iris following a penetrating injury 3 weeks before.

6. Breaking-down of Anterior Synechiae. keratome incision has been made the non-toothed forceps-irrigator is inserted. With the blades closed the synechiae are then gently broken down while the chamber

is kept filled with fluid.

SUMMARY

1. An apparatus is described which makes operations within the anterior chamber simpler and safer by preventing its collapse.

2. The apparatus consists of a delicate forceps, one blade of which is canalized to allow the delivery of an accurately controlled flow of sterile irrigating fluid.

3. Manipulations in the fluid-filled chamber carry

less risk of trauma.

4. The maintenance of absolute sterility is facilitated.

The instruments are being manufactured by Messrs. Down Bros. & Mayer & Phelps Ltd., London, England.

REFERENCES

McKeown, W. A. (1886): Trans. Ophthal. Soc. U.K., 6, 317. Stallard, H. B. (1950): Eye Surgery, 2nd ed., p. 417. Bristol:

J. Wright & Sons, Ltd.

Meller, J. (1923): Ophthalmic Surgery, 3rd ed., p. 190. London: W. Heinemann.

ABSTRACTS ! UITTREKSELS

Barclay et al., J. Amer. Med. Assoc., 151, 18 April 1953, pp. 1384-1388: Distribution and excretion of Radio-active Isoniazid in tuberculous patients.

Present studies indicate that isoniazid and/or its metabolites do diffuse into dense caseous lesions and are present in high concentrations 3 to 5 hours after administration of the drug.

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isoniazid by this method peak levels of the drug were reached in blood and plasma within 1 hour after intramuscular injection. Levels fell rapidly during the first 8 hours, but measurable quantities of the drug were found in blood and plasma 3 to 7 days after a single injection.

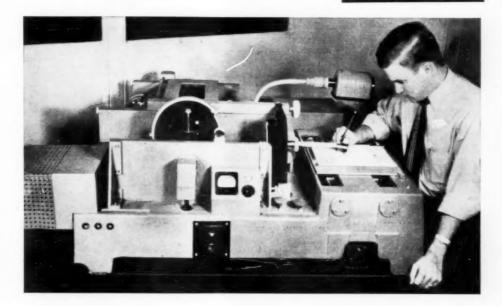
Isoniazid is freely diffusable and is found in appreciable amounts in uninfected tissues and body fluids, including uninfected spinal fluid of patients with tuberculosis. The highest concentrations were found in lung and skin. The chief agent of excretion is the

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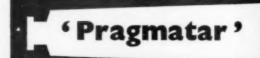
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VAN DIE REDAKSIE

BURGERLIKE VERDEDIGING

Gedurende die Tweede Wêreldoorlog het Suid-Afrika. die Verenigde State van Amerika en ander oorlogvoerende nasies, die lugaanvalle vrygespring waaraan burgerlike bevolkings in Europa onderworpe was. Nogtans was die moontlikheid van 'n lugaanval as 'n wesenlike risiko beskou en onder leiding van die Unieregering is plaaslike verdedigingsorganisasies in dié dele van ons land ingestel wat bedreig was. Die mediese professie het 'n belangrike aandeel in die plaaslike organisasies gehad en baie burgerlike geneeshere het tyd opgeoffer om hulself en die burgerlike verdedigingspersoneel af te rig. In Brittanje was lugaanvalverdedigingseenhede in hewige aanvalle betrokke en personeel vir dié eenhede was hoofsaaklik gewerf ingevolge die wetsbepalings van die verpligtende militêrediens; in Suid-Afrika was lugaanvalle net 'n bedreiging en was diens geheel en al vrywillig. In dele van ons land het die Mediese Vereniging saam met die burgerlike verdedigingsowerhede gewerk om die mediese dienste te

Na afloop van die afgryslikhede van die twee Wêreldoorloë kon verwag word dat die vermyding van oorlog die vernaamste nasionale en internasionale doelwit van dié volkere sou wees wat in the twee oorloë betrokke was en dat die kragsinspanning en onkoste aan bewapening bestee in diens van die mensdom ingespan Maar oor die algemeen is die mens nòg vredeliewend nòg redelik; sedert die ,V-dae' van 1945 hang die dreigement van oorlog nog steeds oor die volke en het hul reusebedrae vir bewa-pening gestem. Vandag is die prooi van die slagveld nie net die vegtende soldaat is, Net soos in die dae van die barbaarse strooptogte wag die dood en verwoesting op almal-vrouens, kinders, die hele burgerbevolking. Die gevare het vergroot namate die wêreld as gevolg van die ontwikkeling en spoed van lugvervoer verklein het, en as slotbedreiging verrys die skrikbeeld van die atoombom, vreemd en onheilspellend.

Gedurende die afgelope oorlog was gifgas die bedreiging wat in beide soldaat en burger addisionele vrees ingejaag het. Dit het nie 'n werklikheid geword nie maar 'n studie is daarvan gemaak beide wat verdediging en aanval betref; voorrade gifgas was deur oorlogvoerende lande opgestapel ,net in geval', mediese en ander personeel was opgelei om die gevaar te bestry. Dit is die atoomwapen wat nou as dreigement die wêreld in die gesig staar, beide op militêre en burgerlike gebied. Ons moet hoop dat oorlog nie uitbreek nie; as 'n oorlog uitbreek laat ons hoop dat atoomwapens nie gebruik

EDITORIAL

CIVILIAN DEFENCE

In World War II South Africa, like the United States of America and other belligerent countries, escaped the air raids to which the civilian populations of Europe were subjected. Nevertheless an air attack was considered to be a real risk, and under the lead of the Union Government local civilian defence organizations were established in those parts of the country that were thought to be threatened. The medical profession played an essential part in the local schemes, and many civilian doctors gave up what time they could spare from their practices to the training of themselves and the civil defence personnel. In Britain, where Air Raid Protection units were heavily engaged in active operations, the A.R.P. recruitment was largely organized under the law of compulsory service; in South Africa, where air raids remained only a threat, it was a purely voluntary service. In parts of the country the Medical Association co-operated with the civilian defence authorities in organizing the medical services.

After the horrors of the two world wars it might have been expected that the prime national and international objective of the peoples who had been involved in them would have been to avoid war and deflect effort and expenditure from armaments to the service of mankind. But man in the mass is neither peaceful nor reasonable; and since the 'V days' of 1945 the nations have lived under the constant threat of war and have voted vast sums for armaments. Wars are no longer the affair of 'fighting men' only. The civilian population—women, children and all—are exposed to death and destruction, as they were in the days of barbarian invasion. The danger has increased as the world has become smaller through the fantastic growth and speed of air-transport, and the final menace is the nameless horror of the atomic homb

In the last war it was poison gas that was the added dread both of campaigns and civilian war. It did not become an actuality, yet it was studied both in offence and defence; stores of poison gas were laid down by belligerent countries 'in case', and medical and other A.R.P. personnel were trained to combat it. The potential threat that now faces the world, both in battle and in civilian warfare, is the atomic weapon. We must hope there will be no war; if war comes, let us hope that atomic weapons will not be used, just as the threatened poison gas was not used in 1939-45; or if the worst

word nie, net soos die bedreiging van gifgas nie gedurende 1939-45 'n werklikheid geword het nie; of as die ergste gebeur laat ons in Suid-Afrika hoop dat ons burgerlike bevolking nie aangeval word nie.

In 'n artikel wat in hierdie uitgawe van die Tydskrif verskyn vestig brigadier J. P. de Villiers ons aandag op die toestand. Dit is noodsaaklik om voorberei te wees. Wat die Regeringsbeleid is, is nie aan die publiek bekend nie en totdat die Regering die leiding neem kan geen voorsorgsmaatreëls getref word nie. Die mediese beroep het egter 'n verantwoordelikheid van sy eie, en sal saam met atoomwetenskaplikes geroepe wees om ons land se Regering en militêre owerhede van advies te bedien. In geval van lugaanvalle, deur atoomwapens of andersins, sal van individuele geneeshere verwag word dat hulle hul deel sal bydra tot die burgerlike verdediging van ons land. Dikwels mag oorlogsomstandighede improvisasies op die laaste tippie vereis maar die gedugtige en onbekende probleme wat 'n atoomaanval sou oplewer maak dit des te meer gebiedend dat redelike maatreëls betyds getref word om ons land in staat te stel om ons burgerlike bevolking die bes moontlike beskerming te bied.

ABSTRACTS :

Lepper et al., Am. J. Dis. Child., 85, March 1953, pp. 297-302: Treatment of Bacterial Meningitis of unusual etiology and Purulent Meningitis of unknown origin.

In this series 21 patients with meningitis due to specific etiologies and 20 other patients with purulent meningitis of undetermined origin were treated in various ways. Penicillin proved to be satisfactory therapy for most of the coccal infections and for most of those of unknown origin. When penicillin was employed the dose was I million units of a soluble salt every 2 hours given by the intramuscular or intravenous route for several days, followed by doses of 600,000 units of penicillin procaine in aqueous suspension when the patient was improving.

These penicillin procaine doses were at first substituted for every third dose of the soluble-salt form for 24 hours, after which they were continued and the soluble penicillin wholly discontinued. If a child under 10 is critically ill and there is good reason to suspect a pneumococcus infection (e.g., a concomitant pneumonia with empyema) penicillin should be used with streptomycin as a possible adjunct to control the influenza bacillus in case this is the causative

agent.

In children from the age of 10 years upward pneumococcus is most likely to be the causative organism and in a moderately ill patient penicillin alone is likely to be sufficient. In a critical case streptomycin can be added in case a gram-negative rod is involved. Titche. Eye, Ear, Nose and Throat Monthly, 32, April 1953, p. 203: Streptomycin therapy of tuberculous Otitis Media.

Five patients with tuberculous otitis media were treated in this series. All were suffering from active pulmonary tuberculosis. In 2 patients streptomycin was employed locally, in a concentration of 0.1 g. per cc. of distilled water. Each day 1 cc. was instilled in the ear. One patient left the hospital after only 6 treatments, up to which time no change had been noted in the ear.

The other locally-treated patient received 1.5 g. of streptomycin and the ear became dry after 6 days of therapy and remained so for one year, i.e., up to the time of the last observation made of his condition. The other 3 patients in this series received parenteral streptomycin because of their pulmonary disease. One received 2 g. of the drug daily for 115 days. The ear became dry 42 days after initiation of therapy and 3 months later the perforation was found to be closed.

Another patient received 1.0 g. of streptomycin twice a week along with 4.0 g. of PAS 3 times a day. While the ear became dry after 37 days the perforation has not healed. There was no healing of the perforation in the third patient either, although his ear became dry after 26 days of treatment with 1.0 g. of streptomycin per day and 4.0 g. of PAS 3 times daily. The author notes that streptomycin appears to be a very efficacious therapeutic treatment in tuberculous otitis media.

comes to the worst let us in South Africa hope that our civilian population will escape attack.

Brigadier J. P. de Villiers in an article published in this issue of the Journal draws attention to the situation. It is important to be prepared. What view the Government takes is not known to the public and until the Government gives a lead precautionary measures cannot be taken. The medical profession, however, has a responsibility of its own, and with atomic scientists will be called on to advise the military authorities and the Government. Individual doctors, too, would be required to play an essential part in the civilian defence in the event of air attack, whether by atomic weapons or not. Last-minute improvisation may be called for in many circumstances of war, but the formidable and unfamiliar problems that would be presented by atomic attack make it all the more necessary that reasonable measures should be taken in good time to put the country in the most favourable position to cope with attacks on the civilian population.

UITTREKSELS

Campbell and Pruitt, Jama 150, 1626, 1952 Vitamin B_{12} in treatment of viral hepatitis: Preliminary report. Original source: J.Amer Med. Sci, 224, 252, 263, 1952.

Three groups of 100 patients each with acute viral hepatitis were included in this study, each being given a different program of treatment. The groups had comparable physical and clinical backgrounds. Group A received the usual treatment of high-protein, high-carbohydrate, moderate-fat diet, with bed rest, multivitamins, and brewers yeast.

Group B received the same diet and the bed rest, but no added vitamins and yeast. Group C received the treatment given Group B, plus 30 meg. of B., orally for the first five days of hospitalization.

plus 30 mcg. of B_{12} orally for the first five days of hospitalization. Those receiving B_{12} had a more rapid return to normal appetite and liver size than the patients in the other two groups. Total serum bilirubin values for Group C patients became normal more quickly than did those in the other two groups, and the mean duration of illness was less in Group C. (The date of 'cure' was that on which liver function tests became and remained normal)

Experimental work tends to show a connection between B_{13} and nucleoprotein metabolism and liver repair. The role of B_{12} as a lipotropic agent is further evidence of its importance in liver diseases. Because of lack of controls this study is not altogether statistically sound but should be a basis for further investigation.

Austrian et al, Bull Johns Hopkins Hosp., 91, 323-329; A comparison of the Efficacy of Chloramphenicol ('Chloromycetin') and of Penicillin in the Treatment of Pneumococcal Lobar Pneumonia, November 1952.

This study covered 102 patients with a clinical diagnosis of lobar pneumonia. Of these 43 were treated with chloramphenicol (1 g. orally on admission and at 6-hour intervals thereafter) while 59 were treated with 300,000 units of sodium penicillin G in aqueous solution intramuscularly on admission and at 12-hour intervals thereafter. Infections were of comparable severity in both groups, and treatment continued in both until rectal temperature was below 99.6 F. for 72 hours.

Complications occurred in more or less equal numbers in both treatment groups, and there were few undesirable side-effects associated with either type of treatment. Despite the effectiveness of chloramphenicol the occasional depressant effect of this drug on bone marrow, the secondary fungal infections which may follow its use and above all the fact that fatal thrombocytopenia and aplastic anemia may arise from its administration tend to make its use less desirable in treating infections for which other agents, excelling and fully effective that force to the control of the control of

equally and fully effective but less toxic, are available.

Penicillin is therefore preferable. While chloramphenicol and aureomycin are effective in pneumococcal lobar pneumonia penicillin appears no less effective and is probably both less toxic and less expensive.

SCIATIC AND ANALOGOUS ROOT PAINS AND THEIR TREATMENT BY PARAVERTEBRAL INJECTION

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Intervertebral disc lesions are mainly incident upon the 5th lumbar cartilage, resulting in pain of sciatic distribution. The 4th lumbar cartilage may be implicated independently or in association with the 5th. Cervical disc changes, causing brachial neuralgia, occur less frequently. More rarely occur lesions of the 2nd and 3rd lumbar discs. In the thoracic spine cartilages of the more mobile vertebrae, viz. T₁₁ and T₁₂ may be involved.¹

ETIOLOGY

It is nearly 20 years ago that Mixter and Barr explained the relationship between disc disorders and root pains, but considerable time passed before it was generally regarded as a major factor,2,3,4 and despite Dandy's view that 95% of backaches are due to disc lesions the old theories were still held that neuritis, myofascial disturbances and fibrositis were the chief causes of sciatica. Bankart 5 mentioned various other causes. Kendall 4 held that myofascial injury played a prominent part. Putti 6 blamed anomalies of the intervertebral joints (tropism) as the commonest cause. Holmes and Sworn, 3 although admitting the predominant role of the faulty disc, think that arthritis of the apophyseal joints is the principal cause of lesions in the intervertebral foramen, and regard myofascial conditions and fibrositis as responsible for involvement of the nerve after leaving the spinal column. West? believes that disorders of the apophyseal joints irritate the neighbouring funiculus. For some lesions in the nerve trunk Copeman and Ackerman 8 blame fat-herniations. Hypertrophy of the ligamentum flavum may, in extensive disc protrusions, aggravate the symptoms.9, 11 Sciatica or sciatic neuritis was considered by others to result from prostatic infection,10 gout or other metabolic derangement. The fact remains, however, that true inflammation of the root or nerve trunk (neuritis) is difficult to prove. Pressure by osteophytes is conceivable, but is rarely recorded in the lumbar region; it is more common in the cervical spine. The term sciatica or trunksciatiac in its present sense refers to a limited group. Its cause lies distally from the root, and areas of tenderness (Valleix's points) may be found in the gluteal regions or elsewhere. Other causes to be mentioned are injury to the lumbar spine or pelvis, spondylolisthesis, difficult forceps delivery, tumours of the pelvic basin, or cauda equina.

SIGNS AND SYMPTOMS

Symptoms commonly associated with disc-herniations are (1) obliteration of the lordotic curves in the lumbar and cervical regions, (2) pain aggravated by coughing, sneezing and jugular compression, 18 (3) paraesthesia of segmental pattern. The protein-content of the cerebro-

spinal fluid is often raised (of little diagnostic significance). It must be remembered that although there is often radiological evidence of disc disorders, particularly in the cervical spine, many of these cases are symptom-

The Sciatic Syndrome. The great sciatic nerve is formed by segments of L_4 , L_5 , S_1 , S_2 , and S_3 . The cartilage below L_5 is most frequently involved. Rupture of the posterior common ligament is usually followed by backache (lumbago). After days or weeks root pains appear. The root pains may be bilateral where there is extensive prolapse. 33 Hypotonia of the hamstrings and calf muscles, and sometimes weakness of the ankle, follow. There may be slight sensory loss to touch and pinprick on the outer side of the foot. The ankle-jerk is diminished or lost in 63% and the knee reflexes in 2.5% (Kendall). Reduction of ankle-jerk implies dysfunction of S₁. Straight leg-raising and forward-bending movements are restricted. Sometimes raising of the sound leg causes pain on the affected side. There is usually a contralateral scoliosis. The patient walks with a limp-he hurries off the affected leg to the good leg (painful limp).13 Fibrillation of muscles is sometimes seen. X-ray shows narrowing of disc space; often there is lipping of the vertebral body and on lateral view the lumbar spine is

Femoral neuralgia results from pressure on segments L_2 , L_3 , or L_4 . The patient complains of paraesthesia and pain in the front of the thigh. There is weakness in the quadriceps and the patient may complain of the leg 'giving' under him while walking. Young ¹⁴ groups the symptoms produced by affection of each segment under various syndromes:

 L_3 syndrome: Loss of the cremasteric and lower abdominal reflexes on the affected side, and pain referred from the back to the anterior and antero-medial portion of the upper third of the thigh.

L₃ syndrome: Loss of the cremasteric reflex, weakness or loss of knee-jerk, and pain referred from the back to the anterior and antero-medial portion of the thigh and the upper medial side of the leg, with weakness of the quadriceps.

L₄ syndrome: Pain radiates to the lateral part of the thigh, the anterolateral part of the leg, the medial side of the foot and sometimes the great toe, with weakness of the quadriceps and knee-jerk.

Protrusion of a disc above the 1st lumbar segment is apt to cause gross neurological defects 15 by pressure on the cord—suggesting a spinal tumour. Brachial neuralgia of root origin is usually caused by a deranged disc at C₆ or C₇, and only one root is involved. Young states that herniation of the nucleus pulposus is rare in the cervical region, and that rupture and degeneration of the disc is more often found. A protruded disc may

press on the nerve root, and if directed centrally a modified Brown-Séquard's syndrome may follow as a result of pressure on the spino-thalamic tract, with loss of pain-sense and temperature-sense on the opposite side, a positive Babinski, and root symptoms in one or both arms. If the lesion is at the 6th root there is paraesthesia, loss of the biceps and supinator jerks, and weakness of the flexors of the elbow and wrist. If the lesion is at the 7th root there is loss of the triceps jerk, with weakness of the triceps, pectoralis major and extensors of the fingers and wrist. ¹⁸

Occipital neuralgia is characterized by pain in the posterior division of C_2 (great occipital nerve). The pain spreads from the back of the neck to behind the ear and the top of the head. The pain may be excruciating and may occur in paroxysms.

Diagnosis. The clinical examination must include a rectal examination to exclude tumours of the pelvic basin, etc. and must be supplemented by X-ray study of the spine and pelvis. Dandy ¹⁷ advises against myelography. However, when there are signs of compression of the spinal cord, or a combined picture of femoral and sciatic neuralgia, a myelogram is indicated. The combined symptomatology should lead to the suspicion of a cauda-equina tumour (McCardle).

Differential Diagnosis. Sacro-iliac arthritis may cause pain referred to the calf, which is aggravated by sneezing or coughing, but there are no neurological signs or paraesthesia. Rocking the joint by bending the knees fully and flexing the thigh on the abdomen, may cause pain in the affected joint. Pain may also be produced by hyperextending the thigh, with the patient in the prone position.

In compression of the cord, there are usually bilateral sensory involvement to a high level and signs of an upperneurone lesion in addition to root pain.

A cervical-disc lesion produces pain referable to one root and can thus be distinguished from plexus lesions caused by a cervical rib, where lower trunks are involved. Scalenus-anticus spasm should also be excluded. Infiltration of the muscle with 'proctocaine' causes relaxation and relief of pain. X-ray examination is essential to exclude cervical-rib and allied syndromes.

Spondylolisthesis can be established by X-ray. This condition may mimic sciatica when dragging on L_4 and L_5 occurs.¹⁸

Psychoneurotic backache is always continuous, with no remissions, and the pain does not consistently radiate down the leg, but may at times be referred even to the upper extremity. The patient does not volunteer the statement that straining aggravates the pain.¹⁹

TREATMENT

Many believe that sciatica and allied disorders are self-limited. Money of Sydney is against early operation. Douglas Miller employs immobilization by a plaster cast on the belief that time effects repair. Dunning concurs. Lindon 30 maintains that the extruded nucleus pulposus may become organized and thus the pain relieved. Holmes and Sworn, Kidner, 21 Kleinberg, 22 Dunning 23

and many others advocate conservative treatment at the outset. The cases that do not respond are referred to the

The statistics of Spurling, Grantham and others 21, 25, 26 27, 28 give an average of about 60% cures by surgery. Wycis, however, claims 97% success by operation. Others record more modest results. Of the cases treated conservatively, over 50% are able to return to work.

Before the disordered disc came to be established as the chief cause of the symptoms various methods of treatment were employed; e.g. multiple puncture of the nerve, saline injections, stretching of the nerve, epidural injections, inflation of the limb with oxygen ²⁹ and counter-extension.

The method which I have employed for some time is based on Wilfred Harris's 30 suggestion of a paravertebral injection for root-pains, with the difference that instead of using alcohol I infiltrate with 'proctocaine'. X-ray taken of the area can be used as a guide. corresponds sufficiently to the patient's skeletal dimensions to determine the site to be injected. A small-bore lumbar-puncture needle is introduced while the patient is lying prone on two pillows under the abdomen. Procaine is injected while the needle is being directed towards the intervertebral foramen, which lies below the junction of the transverse process and body of the vertebra. It must be remembered that the dura mater invests the root-portion of the spinal nerves and the funicular portion of the nerve before it emerges from the intervertebral foramen 31 and that cerebrospinal fluid may appear when the needle penetrates the investment. In spite of Bonniot and Forestier's contention that the funicular portion of the nerve is not clothed by arachnoid membrane, but only invested by dura mater, I have repeatedly seen cerebrospinal fluid escaping when the needle is introduced into the foramen. happen the needle must be slightly withdrawn until fluid ceases to escape. Another contingency is that the patient may feel a sharp pain radiating down the leg when the nerve is encountered. This is another indication for slight withdrawal of the needle. These are welcome proofs that the needle-point is in the correct position. It is well beforehand to be sure that the needle is not in a vein. Between 2 and 4 cc. of 'proctocaine' are then injected. Often after the introduction of the 'proctocaine' there is dramatic relief from pain and straight leg-raising becomes almost unrestricted. The patient may feel numbness in the limb and be unable to bear his weight on it for a while. This procedure should be carried out in a nursing home or hospital and not in the doctor's rooms. I use 'proctocaine' because of its prolonged anaesthetic effect. Teevens 32 obtained relief for 14 days by using 'proctocaine' via the sacro-coccygeal canal in a patient with sciatic neuralgia caused by malignant metastases. If 'proctocaine' does not afford immediate relief, in most cases it certainly takes the edge off the pain and usually analgesics can be discontinued.

The following is a summary of 39 cases treated by paravertebral injection of 'proctocaine'. The majority had sciatic pain, a few had femoral neuralgia, and a few had brachial neuralgia, the result of a cervical disc

lesion.* Many cases are not recorded, because my casesheets from 1949 to June 1951 have not been properly searched. The majority showed X-ray evidence of disc disorder.

A.—Cases (12) Showing Lasting Results

1. M.P., E M 39,† July 1943. Infiltration into L5 segment for acute right-sided sciatic pain. Experienced immediate relief. No relapse to date.

S.S., E M 44. Infiltrated on 22 August 1944 and 4 September 1944, for left sciatic pain. Still well and able to work.

3. B.J., E M 49. September 1944. Came into 'Rheumatic Out-patients' walking on a crutch. L5 infiltrated for left-sided sciatica. Immediate relief. Remained well for 6 years when he

died of cardiac infraction.
4. D.M., E M 46. August 1945. Infiltrated for right-sided Left nursing home 10 days later free from pain, sciatic pain.

and is still well.

M.O., E M 56. On 6 March 1946. L5 infiltrated for leftsided sciatic pain, which was partly relieved. Injection repeated on 13 March 1946, and has been well since.
6. J.S., E M 48, brother of case 2. X-ray showed narrowing L4 and L5 interspaces. Both segments infiltrated, 8 July 1946,

with marked relief. Still well and working.
7. Mrs P.Z., E 38. L5 infiltrated 8 July 1947 for left sciatic Root pain was relieved, but as she still had pain in the left buttock a deep injection was given into region of great sciatic notch with good results. Still comfortable.

8. J.K., E M 32. October 1947. Complained of pain down the left leg which had kept him in bed for 6 weeks. Infiltration of

L4 and L5. No pain since.

9. Mrs M.P., E 38. January 1952. Left sciatic syndrome with Infiltration of L5 relieved her. She still had scoliosis a month later, which was relieved by massage. No relapse since. 10. J.P.H., E M 80. Seen June 1952. Had right-sided sciatic

pain, which was relieved by infiltration of L5, but as there was still pain in the buttock 'proctocaine' was injected deeply into the

Has been well to date.

11. O.F.B., E M 38. This patient was unable to travel to town, and on 28 July 1952 I was called to his farm by Dr W. Taylor. A few days previously, while walking, he had experienced a sudden excruciating pain in the back. His legs gave way and he fell down and had to be carried to his bed. I found that he had a right-sided femoral neuralgia, with pain referred to anterior portion of thigh and absent knee-jerk. L2, L3, and L4 were right-sided temoral neuralgia, with pain referred to anterior portion of thigh and absent knee-jerk. L2, L3, and L4 were infiltrated and he was so much relieved that he could travel to town on 1 August 1952. X-ray showed narrowing of L3 and L4 interspaces. As he still had some pain L4 was infiltrated again with immediate relief. Still well.

12. S.K., E M 43. Infiltrated on 29 October 1952 for right-sided sciatic pain. Left the nursing home a week later. Has had

no pain to date.

B.—Cases (7) Showing Good Results, But Observation Period TOO SHORT TO EXCLUDE SUBSEQUENT RELAPSE

13. J.P.‡, E F 39. March 1944. Complained of left-sided sciatic pain. Immediate relief after infiltration of L5. She reported a month later that she was still comfortable and promised to

return if pain recurred. Not seen since.

14. J.M., E M 42. On 7 October 1944 infiltrated for acute right-sided sciatic pain. Relieved during observation, which

lasted a month.

15. S.v.S.‡, E F 36. October 1946. Left-sided sciatic syndrome; pain had lasted over a month. Dramatically relieved by infiltration. She referred a patient to me 6 months later, and was then still without pain.

16. Mrs H.C.‡, E 42. December 1946. Intercostal neuralgia, of long duration following herpes zoster. Relieved after infiltra-

* It is well to remember that intervertebral injections in the cervical region are fraught with danger.

† Throughout E=European, M=male, F=female, figure=

age in years.

Cases treated at Rheumatic Clinic, Groote Schuur Hospital, Cape Town, and difficult to follow up.

tion of T7 and T8 on right side. Under observation for several weeks.

J.B., E M 48. March 1946. Relieved of right-sided sciatic

pain after infiltration of L4 and L5. Still well 2 months later.

18. Mrs K.R., E 45. May 1948. Severe pain down left arm. Marked tenderness over spine of C6. Infiltration relieved the pain, which previously had interfered with sleep. Left the nursing home inside a week. Promised to report if relapse. Not seen

S.J., E M 51. 4 September 1948. C6 infiltrated for severe brachial neuralgia. Immediate relief. Observation period short,

C .- CASES (4) RECENTLY TREATED WITH GOOD RESULTS, BUT TIME TOO SHORT TO EXCLUDE POSSIBLE RELAPSE

Miss R.N., E 36. 5 March 1953. Weight over 300 bl. Dates her sciatic pain from the time of a fall 14 months previously. L4 and L5 infiltrated, using the longest lumbar-puncture needle

procurable. Has had no pain since.

21. N.C., E M 62. Infiltrated 22 April 1953 for left-sided femoral neuralgia. X-ray showed narrowing of interspaces of L3 and L4. Able to leave for the Coronation a few days later.

Recent information that he is still well.

22. Mrs C.H., E 39. Seen 28 September 1953. Infiltrated for right-sided sciatic pain. Relieved at once. Left nursing home for Oudtshoorn 9 October 1953 feeling fit.
23. A.deV., E M 52. Seen 13 October 1953. Herpes zoster in distribution of T9 and T10. Right side infiltrated with proctocaine and the severe pain disappeared. Two days later developed a troublesome itch, which was relieved by pyribenzamine.

-Cases (3) Treated by Paravertebral Infiltration with SOME RELIEF, AND IN ADDITION OXYGEN INSUFFLATION *

24. J.J.V., E M 57. Complained of pain from right buttock to calf on the left side. L5 infiltrated 20 May 1944, and there was partial relief. O₃ insufflation given same day, which relieved residual pain. X-ray showed no evidence of a disc lesion. Probably trunk sciatica. There had been no relapse when last contacted in July 1948

25. J.H.v.Z., E M 37. Acute right sciatic pain, much relieved by paravertebral injection on 10 August 1953. As some residual pain remained in buttock he was given an O₂ insufflation and left nursing home relieved on 25 August 1953. Went back to work on 15 September 1953.

 E.J.M., E M 36. Complained of right-sided sciatic pain.
 X-ray showed marked scoliosis with asymmetrical sacralization of L5. Infiltration of L5 on 30 August 1953 relieved the pain but there was residual pain in the buttock, which was relieved by O2 insufflation. He returned to duty 5 November 1953 feeling

E.—Cases (7) RELAPSING AFTER PARAVERTEBRAL INFILTRATION

Mrs J.W.R., E 37. Seen 31 March 1943 with right sciatic pain and marked scoliosis. Several years before, back severely injured in a motor accident. Treated by paravertebral infiltrations, and the sciatic pain ultimately relieved. The scoliosis disappeared 6 weeks after she returned to her home. Remained well until January 1952, when the pain in right leg recurred (not severe enough to call for anodynes). Given two paravertebral injections in March 1952, which relieved her. Advised to rest for a month. I saw her recently and she has had no further trouble.

28. J.H.J.V., E M 37. Seen 14 January 1948. Two infiltrations failed to relieve his left-sided sciatic pain for more than a month. Operated for disc prolapse in July 1949 and remained well for 18 months, when the pain returned so severely that he was admitted to a nursing home in January 1952, where he had 2 infiltrations which enabled him to return to duty in the March follow-

 The oxygen is injected around the trunk of the sciatic nerve, where it passes into the buttock from the great sciatic notch. The affected limb is insulated from the rest of the body by means of a stout rubber tube to localize the gas. The limb is slowly inflated from an O2 cylinder until distension is apparent right down to the calf.

29. W.K.M., E M 36. Admitted to hospital 18 July 1951 suffering from right-sided sciatic pain and a duodenal ulcer. X-ray showed narrowing of interspaces of L4 and L5. These segments were infiltrated and he was discharged on 14 August 1951. At end of August 1951 he had a relapse and was infiltrated

again in January 1952. Since then free from pain.

30. W.B. E M 42. 11 February 1952 infiltrated for right-sided sciatic pain; acute pain relieved. Still at work but gets occasional twinges of pain of short duration.

31. B.N.E., E M 60. 16 November 1952 infiltrated for right-

sided sciatic pain and remained well until 2 August 1953. Since

developed pain in the hip.

32. Mrs H.J.C., E 25. Seen 18 November 1952. Complained of right sciatic pain, which developed 4 months before, after a forceps delivery. X-ray showed normal lumbar interspaces and no sacro-iliac pathology. L5 infiltrated; remained free from pain until end of February 1953 when she had to have an ap-At operation it was found that she also had a pendicectomy. At operation it was found that she also had a salpingitis. After the operation the pain down the leg returned. This disappeared when she left the hospital, but she still experi-

and the hospital, but she sain experiences occasional pain in the right foot.

33. P.J.G.S., E M 48. 27 November 1952 L3 and L4 were infiltrated for femoral neuralgia. Severe headache as a result of escape of cerebrospinal fluid through the lower needle, which had to be withdrawn slightly before 'proctocaine' was injected. Severe backache after playing tennis 6 months later and again. some weeks ago after playing jukskei. The leg pain has not re-

F.—CASES (6) RECEIVING NO BENEFIT FROM PARAVERTEBRAL INJECTIONS

34. S.R., E M 57. Seen 6 November 1944 for right-sided sciatic pain. Operated on for protruded disc removal, 8 February 1945, with partial relief.

35. Mrs L.D., E 49. Seen December 1948. Had several injections for left-sided sciatic pain, with no relief. Operated on February 1950 with excellent results.

J.G.H., E M 42. Seen 7 April 1952. Segment of L5 in-

filtrated several times with no relief. Protruded disc removed by operation 20 February 1950 with excellent results.

37. F.W.M., E M 39. Seen 7 April 1952. Segment of L5 infiltrated several times with no relief. He says he was ultimately cured by a chiropractor.

38. Miss E.C., E 43. Seen 18 July 1952. Several injections into L4 and L5 segments for left-sided sciatica with no relief. Was relieved by traction.

39. Mrs G.H.M., E 53. Came on 9 June 1953 with severe pain from back to right foot. X-ray showed disc degeneration in the 2nd and 3rd lumbar interspaces and early osteo-arthritis of right hip. Infiltration of L2 and L3 segments relieved backache. Her hip is now very painful, according to a letter received from her lately. I have not seen her since, but surmise that the pain may be due to the osteo-arthritis of the hip.

SUMMARY

A survey of sciatic and allied neuralgias is presented with reference to etiology, symptomatology, diagnosis and treatment.

The predominant role of disc disorders as a factor is discussed.

The claims for conservative treatment versus early operation are considered.

The result of treatment by paravertebral injections of proctocaine' is recorded. This shows relief of acute pain in the majority of cases and early rehabilitation in a number; and where there has been a relapse, further treatment on the same lines has been followed by satisfactory results.

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A SILENT EPIDEMIC OF POLIOMYELITIS

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Introduction. Acute poliomyelitis is caused by any of 3 serologically distinct strains of virus, the prototypes of which are called Brunhilde (Type I), Lansing (Type II) and Leon (Type III); although it is possible that further types may be found. It is known that infection with the

virus frequently starts in the pharynx, presenting as an upper respiratory infection. A viraemia may follow; and the central nervous system may become involved, particularly the midbrain and the anterior horn of the spinal cord. In the later stages of the disease the virus

is passed in large amounts in the stools. Only a small proportion of infections leads to paralysis; the majority are silent, or present with minimal signs as 'abortive' cases.

Since January 1953 the isolation of poliomyelitis virus in tissue culture directly from the stools of patients has been successfully carried out in this laboratory. The technique employed is a modification of that introduced by Enders, Weller and Robbins in 1949 for the propagation of poliomyelitis viruses in cultures of extraneural The cultures may be of the suspended-cell type, tissues.1 where fragments of tissue lie free in a fluid medium; or of the roller-tube type, where the tissue fragments are fixed to the wall of a test tube by means of a coagulum of fowl plasma, being bathed in the fluid medium through rotation of the tube in a revolving drum. In the latter type of culture, outgrowths of new cells are visible under the microscope, and the destruction of these cells following the introduction of virus can readily be seen. This destruction, called the cytopathogenic effect of the virus, can be prevented by neutralization of the virus by an homologous anti-serum produced in monkeys, or by the serum of a patient convalescent from an infection with that particular strain of the virus. An anti-serum produced against one of the 3 types of poliomyelitis virus is specific for that type, and will not neutralize the other 2 types. It is thus possible by means of antisera produced under controlled conditions to identify an agent causing a cytopathogenic effect in tissue culture. Of the cytopathogenic agents isolated from faeces relatively few have not been identified as belonging to the group of poliomyelitis viruses.2, 3, 4, 5

In this laboratory use is made of testicular tissue from the vervet monkey (Cercopithecus aethiops pygerythrus), since it is readily obtainable and provides a sensitive means of detecting virus. Both suspended-cell and roller-tube cultures have been employed for primary isolation of virus from faeces; but as a rule, the suspension of stool, treated with streptomycin and penicillin and centrifuged to remove particulate matter and fungal spores from the supernatant fluid, is inoculated into suspended-cell cultures from which, after a period sufficient for multiplication of the virus, subinoculation on roller tubes is carried out. When a cytopathogenic agent is observed in the tubes it is typed by a neutralization test with anti-sera produced against the known types of poliomyelitis virus.

In South Africa all 3 types of poliomyelitis virus have been isolated this year, and no agents have yet been found which are not neutralized by one of the known anti-sera. Viruses belonging to Types I and III have been isolated in Johannesburg from paralytic cases during the summer and autumn months of this year, most of the cases being sporadic and without apparent relation to each other. The present paper indicates the extent to which poliomyelitis virus may spread without producing recognizable signs or symptoms.

INVESTIGATION

On 6 March 1953 a child aged $4^2/_{12}$ years fell ill in Johannesburg, 2 days later developing signs of respiratory distress. The illness had started with vomiting and

slight pyrexia; but progression was rapid, and by the third day breathing was irregular and palatal paralysis, together with a right seventh-cranial-nerve palsy, had developed. The patient was taken to hospital and put into a respirator, but his condition steadily deteriorated, and he died on 11 March. On clinical grounds a diagnosis of acute poliomyelitis with bulbar paralysis was made.

There had been a few cases of poliomyelitis in Johannesburg during the summer, but this patient was not a known contact and had been well until the onset of his illness. It was decided to investigate the extent of infection amongst children at the nursery school attended by the patient; and by 16 March stools had been collected from 44 children at the school; as well as from 2 siblings, at their parents' request, since they had daily come to the school when children were taken home at midday. Specimens from 3 teachers and a student teacher were also examined.

The school is situated in a part of Johannesburg densely populated by European middle-class families. The ages of the children, including the 2 siblings, ranged from $2^4/_{12}$ years to $5^7/_{12}$ years. When the diagnosis of poliomyelitis was made the school was not closed, but the parents were informed. Some chose to keep their children at home for 3 weeks, and a number of children received intramuscular injections of gamma-globulin. No further clinical cases of poliomyelitis occurred in this group.

Isolation and Identification of Virus. Suspensions of stools obtained were individually inoculated into tissue-cultures. After 2 weeks subinoculation into roller tubes was carried out, and the tubes were examined at intervals for signs of cytopathogenic effect. When such an effect progressing to complete destruction of the cultures was observed the stool was regarded as positive for a cytopathogenic agent. If no destructive effect appeared the stool was regarded as negative, and no further attempts at virus isolation were made. Neutralization tests with known anti-sera were carried out on a sufficient number of the agents isolated to indicate the type of virus involved.

TABLE I. COMPARISON OF ISOLATIONS ON TWO OCCASIONS

Date	No. of Children	Positive	Negative
16 March	46	28 (60.9%)	18 (39.1%)
7 May	37	3 (8.1%)	34 (91.9%)

TABLE II. DISTRIBUTION ACCORDING TO AGE AND SEX AT FIRST

Age in Years	Positive Male Female	Negative Male Female
2 up to 21	1 1	0 0
2½ up to 3	1 1	0 0
3 up to 31	3 5	1 4
3½ up to 4	3 1	1 6
4 up to 4	4 3	1 2
41 up to 5	2 1	1 0
5 up to 5	1 0	0 1
5½ up to 6	0 1	0 1

Results. Specimens from the 3 teachers and the student teacher were all negative. From the children tested a high proportion (60.9%) of positive stools was obtained. Seven weeks later a repeat test on further specimens from

as many of the children as possible was done; and although some of them had during this interval moved from the area with their parents 37 of the original group were available for retesting. Further stools from the teachers were not taken. Table I presents a comparison between the results obtained at the first and second examinations.

The 3 children who were found to be positive in the second test had all been positive on the first occasion. Of the 9 children who were not available for retest 4 had previously been positive and 5 had been negative.

Table II gives the distribution according to age and sex of the results of the first test. One of the siblings not at school aged 24 c. years, was positive.

at school, aged 24/12 years, was positive.

The distribution in Table II is too irregular, and the population from which the sample was drawn is not stable enough as regards residence in this area, for valid conclusions to be drawn concerning the incidence of this type of virus in previous years.

Neutralization tests with monkey anti-sera were done on 8 of the cytopathogenic agents isolated at the first examination, and in every case the agent was neutralized by Type III (Leon) anti-serum but not by Types I and II anti-sera. The agents isolated from the 3 positive stools at the second examination were also subjected to neutralization tests, and these were also neutralized only by Type III anti-serum. Further stools from those children found to be positive in the first and second tests were taken 20 weeks after the first examination and were found to be negative.

DISCUSSION

The clinical diagnosis of acute poliomyelitis in the fatal case cited was supported by the isolation and identification of poliomyelitis virus from a significant number of close contacts of the patient. During this season a number of clinical cases of paralytic poliomyelitis occurred in Johannesburg from which Type III virus was isolated, but the areas from which they came were widely separated. In the light of the findings in this group under consideration, it is possible that a widespread infection with Type III virus was in progress and that immunity to this strain may now be established in a large proportion of the children in the areas from which these cases came.

The mode of spread of poliomyelitis virus has not been finally established. It is possible that under certain circumstances, and for a limited period during the disease, salivary transmission may be important; and in a nursery school, where common toys are used, which are subject to oral contamination, it is not unlikely that salivary transmission plays as large a part as the faecal route.

At this nursery school the children receive food in the form of pasteurized milk, fresh fruit and raw carrots. The virus is labile to heat, but until tests have been carried out to prove whether or not it is destroyed by pasteurization, transmission by way of milk, fruit, and raw vegetables remains a theoretical possibility. Yet it seems more likely that salivary or faecal transmission direct from child to child was the greater factor in this group. None of the teachers handling food were excreting virus at this time.

If faecal transmission is a significant factor in the spread of the disease it would be reasonable to suppose that modern methods of sanitation tend to shield children from early contact with the virus, leading to a rise in the number of older non-immune persons. The relatively low incidence of paralysis among the Bantu has led Gear 6 to suggest that this may be due to exposure early in life under the insanitary conditions prevalent among most Bantu communities. The present study, however, indicates that even when sanitary conditions are optimal, spread of the virus is not necessarily prevented. Wider epidemiological studies are necessary to clarify this aspect of the disease.

It is customary to isolate patients for a period of 3 weeks. This study shows that of 24 children positive at the first examination 3 (12.5%) were still excreting virus after 7 weeks. These were only contacts and not subject to compulsory isolation; the significance of this in relation to the spread of the disease is obvious. It is not possible to examine the stools of all children in a city, and therefore there will always be a large number of virus excretors who will be undetected. As more rapid means of detecting virus are evolved, it may become practical to test the stools of patients and close contacts before releasing them from isolation, thus preventing them from becoming faecal spreaders of virus. until a reliable vaccine is produced early infection with the virus may offer the best protection against attack at a later age, when paralysis might be more severe.

The present study confirms that poliomyelitis can be a highly infectious disease with only a limited incidence of cases with recognizable symptoms. During the 6 school weeks up to 20 February the average number of children at this nursery school who were absent for 2 consecutive days or more per week was 2. For the week ending 27 February this number rose to 8; and during the week immediately preceding the illness of the single clinical case the number of absentees was 16. In none of these children was poliomyelitis suspected at the time, and it is possible that some of them may have been suffering from mild effects of invasion with the virus; since of the 16 absent during the last week under consideration, 10 (62.5%) were subsequently found to be excreting virus.

SUMMARY

1. The isolation and identification of Type III (Leon) poliomyelitis virus by means of tissue culture from a group of young children in Johannesburg is described.

2. Only one clinical case of poliomyelitis occurred in this group, but of 46 contacts 28 were found to be excreting virus without presenting recognizable signs or symptoms of the disease.

3. Three of the children continued to excrete virus for at least 7 weeks. The adequacy of present methods of controlling patients and contacts before releasing them into the community again is discussed.

The technical assistance of Miss Ruth Harwin, Miss Helga Michaelis, Miss Virginia Vail, and Mr. Kurt Frank is gratefully acknowledged.

I also wish to express my thanks to Miss L. Horwitz, Principal of the Temple Israel Nursery School, for her helpful co-operation;





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I. Velentine, F. C. O.: LANCET 8:381 (AUG. 28) 1982.

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to the Johannesburg Municipal Health Department for assistance in collecting stools for examination; and to Dr. Philip Bayer, Superintendent of the Johannesburg Fever Hospital, for permission to consult the records of the fatal case.

I am much indebted to Dr. James Gear and Professor J. F.

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THE MEDICAL PROFESSION MUST PREPARE FOR CIVIL DEFENCE

BRIGADIER J. P. DE VILLIERS, C.B.E., E.D., M.D., D.P.H.

Cape Town

There are three cogent reasons why the medical profession in South Africa should be prepared in the event of future warface

(1) Another world war is likely to involve South Africa. (2) In modern warfare South Africa is within striking distance

by air from its potential enemies.

(3) The atomic bomb can thus be deliberately exploded upon

important strategic targets in South Africa.

Civil Defence therefore has a significance for South Africa more important and vital than ever before and we cannot start too early to plan and prepare against the possible calamity of future warfare. This planning and preparation is of a complicated nature and needs to be on a large scale, even for selected areas. Unless therefore we start right now we may find ourselves unprepared for Civil Defence in the possible event of another world conflagration.

In this article I propose merely to touch on some of the difficulties and problems with which the medical profession will have to

contend in the event of atomic warfare.

In the last world war the dangers to be countered were from high explosive bombing from the air, whether in the form of deto-nating bombs of varying sizes up to 'block busters' or time bombs dropped by bombing aircraft, or incerdiary bombs, or the V2 rocket, or the V1 pilotless aircraft fired from distant emplacements. These dangers could be classified as follows:

(1) Blast caused by the explosion.

(2)Flying splinters.

(2) Fyling masonry and flying glass.
(3) Falling masonry and flying glass.
(4) Fires caused by the explosion and incendiaries.
(5) Disruption of essential services such as water supplies and

water mains, sewage disposal mains and power mains-electricity The counter-measures included the following

(1) Air-raid shelters in the home and in public places.

(2) Fire brigades and fire-fighting squads specially trained for this emergency

(3) Medical, nursing and rescue squads. (4) Hospital provision for casualties

(5) Reinstatement measures for damage to drainage systems, power mains and water supplies.

The atomic bomb not only threatens to multiply these dangers but has added two additional dangers to the list, namely:

(1) Heat flash and fire storm.

(2) Radio-activity (immediate and delayed).

More Doctors will be needed

It will fall to the medical and nursing professions to provide the medical services for the sick and injured as in the past. While first-aid and other ancillary services can up to a point be improvised and adjusted to meet emergency needs, this does not apply to the medical profession, whose skill and training are indispensable and cannot be replaced.

Three significant features arise out of a consideration of these facts, which show that the need to be prepared is so urgent that unless we set about planning systematically in advance we shall be unable to cope with the emergency if it comes:

(1) There are likely to be far more casualties than in the last world war. If atomic warfare is practised these casualties are likely to include many cases that will require very special initial handling and subsequent treatment, due to heat flash, fire storm and radio-activity (This is a far more formidable threat than that of chemical warfare, against which preparations were made in the

(2) In the last war, because the medical practitioners were widely dispersed over the areas in which they practised, it was unlikely that more than a small percentage of them would become casualties, since the destruction from high explosives was limited to comparatively small circumscribed areas at any given time. atomic warfare it is possible that the major portion of a city may become engulfed by a single atomic explosion and the majority of medical men there may become casualties and will require help instead of being able to give it. This means that we cannot rely on a few doctors who are willing to be trained and enlisted for the purpose of rendering this essential medical service in time of need. medical practitioners, including those who practise in areas least likely to attract enemy action, will be needed in the main scenes of disaster to give medical service, and should receive beforehand the special training that is required.

(3) To complicate matters still further the collection, evacuation

and distribution of the sick and wounded from the area of disaster to efficient medical and surgical treatment centres may be greatly hampered by atomic phenomena such as fire storm and radioactivity. To counter these special difficulties new devices would have to be acquired and training undergone by those who form the rescue parties and those who have to treat the casualties.

TRAINING FOR NEW PROBLEMS

These are indications of what we must be prepared for. The medical profession will have to acquire special knowledge and training to cope with the different types of casualties (mechanical, thermal and radiation injuries) which are likely to occur, and learn to adapt themselves to the new circumstances

This is only one phase, though a vital one, of the problems which confront the nation in connexion with Civil Defence in atomic warfare. There are dozens of other important defence and emergency measures which will have to be specially planned for. There will be thousands of homeless people to be evacuated before and after the disaster to places of shelter where they will have to be And there are the many services that were fed and cared for. found necessary in the bombed areas of the last war, which are merely mentioned in this article.

All this demands large-scale planning and organization at all levels, and throughout there will have to be recognized the two basic principles-self-help and mutual assistance-which must be practised successively from the lowest unit, the individual, up

through the family, the local community and the State.

The medical profession could go into technical training straight away. It would, however, need to team up with a general national organization, which can only be established at the instance of the Central Government. When the Government tells the country what is required and what form the national plan is to take then local government must implement that plan within local areas and important sources such as the medical and nursing professions, Red Cross, Noodhulp-Liga and St. John Ambulance Brigade, will be able to organize so as to play their essential parts in the Civil Defence service.

A REVIEW OF A CHRONIC SICK HOSPITAL IN THE TRANSVAAL

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It fell to my lot some years ago to 'screen' all applications for admission to the non-acute or so-called chronic section of Edenvale Hospital. Having done this continuously to date, I now present

a few findings and deductions.

Edenvale Hospital consists of two sections, an acute and a non-acute. We have however accepted it as a definite principle that the occupants of each section are regarded and treated alike as patients, by an interchangeable medical and nursing staff.

Furthermore, it has been laid down that the so-called chronic section is intended for patients requiring prolonged constant medical or skilled nursing attention, and is not for disabled persons who can be satisfactorily cared for by an attendant other than a trained nurse.

Every application was individually considered and, irrespective of rules, no application was summarily dismissed. In doubtful cases applicants were on occasion sent for and examined, and frequently enquiries were made of hospitals and private doctors. In general, efforts were made to ensure that no undue hardships were suffered by unsuccessful applicants.

I have divided the applications for admission received during the 3 years ended 30 June 1953 into 2 groups, viz.:

I. Those not recommended for admission. In this series are

also included recommended cases who for various reasons were not admitted, and

11. Patients admitted to the hospital.

PART I. CASES NOT ADMITTED

Of the 354 applications in this group 92 were for hemiplegia, males 36, females 56. Practically all were old-standing complaints, the cases being regarded as non-rehabilitative and as falling in the category that could well be cared for by any attendant. Hemiplegia also featured as a reason for application in dozens of verbal and telephonic requests that have not been included in these statistics.

A pathetic feature disclosed was that, while a large percentage did in fact have some disability, by far the greatest proportion were seeking shelter rather than medical or skilled nursing care. One wondered at times whether better examples could anywhere be found to exemplify man's inhumanity to man. However this may be, it does show a tendency on the part of many to shelve the responsibility of caring for their disabled relatives—possibly for economic reasons.

A small number in this group made application on grounds of being armless or legless, blind, epileptic, ambulant Parkinsonians, or spastic; they were usually friendless or without rela-

A disappointing finding is that out of 354 applications in this group 171 came from Provincial hospitals—and this in spite of their Welfare Department, and of repeated appeals and constant reminders that it would serve no useful purpose to continue applications to admit homeless individuals on any but medical

Age. Of the 354 applicants not admitted only 64 were below the age of 61 years, while the other 290 averaged 78 years of age. It is evident that Edenvale Hospital is regarded by many as an old-age home.

Died Before Arrival. Forty-two accepted cases died before admission. Most of these were in Provincial hospitals at the time of application. The waiting period was seldom more than a week or two. Hospitals were informed that applications for transfer would not be accepted until patients had been in hospital for 30 days or more.

Cases Referred Elsewhere, Twenty-eight applicants were regarded by us as requiring immediate medical attention or investigation. These were either admitted to the acute section of this hospital, or referred to another hospital.

Over-all Conclusions:

(a) It is necessary to continue to 'screen' all applications, preferably in conjunction with a social welfare section.

(b) Hospitals do not sufficiently appreciate the recognized difference between those requiring medical and skilled-nursing care, and those requiring the services of a good attendant.

(c) Many of the public do not recognize their individual responsibility to care for near relatives.

(d) There is a need for a service that would provide visiting attendants to care for patients in their own homes. A service of this kind would make it unnecessary in many cases to send the patient to an institution, and would relieve breadwinners so that they could continue to earn a livelihood. Such a service might be combined with mobile kitchens, as in England.

PART II. CASES ADMITTED

During the 3-year period 368 patients were admitted to the so-called Chronic Sick Section of Edenvale Hospital.

A small number, admitted on inaccurate medical certificates, were found to be social-problem cases with no evidence of the alleged disease.

Cancer. There were 121 cases of cancer admitted, with nearly equal numbers in the two sexes, of these 85 were over 60 years of age. Of the 36 in the younger age-group 25 were females. The disease in general affected all systems in the body, with a

marked accent on the uterus and breasts in the female cases. The average stay in hospital was 1 month in the younger group and 2 months in the older groups. Nearly all died in the hospital.

Senile, Bedfast, Bedsores. In this category, again with nearly equal numbers in the sexes, there were 128 cases. It is an interesting fact that a large number of these were sent in from institutions professing to cater for the aged.

Out of the total of 128, 81 were hemiplegics, in the proportion of 50 females to 31 males. Of these 12 were discharged much improved after physiotherapy and 13 are still in hospital. The rest have died.

The average stay in hospital was 22 months. This figure is somewhat misleading in that it includes a few bedfast cases that

have been allowed to stay here for many years.

Congestive Cardiac Failure. Only 28 cases of C.C.F. reached this hospital, and of these 24 belonged to the over-60 age-group. All except 2 died in the hospital. The average stay in hospital was 5 months.

Deaths. Of the 368 patients admitted, 223 died. Of these:

56 died within 10 days 64 died within 30 days 60 died within 3 months 43 died after 3 months.

Death was in the main due to the condition for which the patient was admitted. A few died of acquired pneumonia, while a very few developed coronary thrombosis or bowel infection, from which they died.

Discharges. 84 patients were discharged from this hospital, improved or transferred to other institutions. Eight refused hospital treatment on various grounds. Those under 60 years gave as a reason their unhappiness amongst the aged sick and dying. It was not found practicable to segregate the younger

Age. Of the patients admitted only 15% were under 61 years d. The other 85% had an average age of 80.3 years. The Medical Director of Public Hospitals, Transvaal, holds

that 'the greatest proportion of the chronic sick are the young chronic sick'. It has also been stated that 'the chronic sick are generally found not in the group of the aged, but more frequently in the 40-60 group'. It is evident that the criteria for admission to the Edenvale Chronic Sick Hospital differ very materially from these.

Twenty per cent of the patients in the older age-group admitted to the chronic section died within 7 days of admission. From personal investigations I concluded that patients frequently arrived suffering from conditions that would have warranted admission to acute wards. It is apparently not realized, that medical urgency is not a reason for admitting a patient to a chronic

In acute hospitals one frequently comes across young cardiacs or cases such as sub-acute bacterial endocarditis, P.U.O. or fractures and cases of particular academic interest, in young patients, occupying beds for many months without application being made for their transfer to a long-term hospital. This privilege appears seldom to be extended to the aged. There appears to be a

The facts clearly show that Edenvale Hospital is being largely regarded and utilized as a refuge for the ailing aged.

NEED FOR CHRONIC SICK HOSPITAL

Professor P. Delore (1) is said to define 'chronics' as long-term sick with potentially a long span of life. In this hospital 180 patients out of 368 admissions died within 3 months. Dr. Hugo has expressed the view that all hospitals should cater for their long-term sick. I heartily welcome this as feasible and practical, provided provision is made for caring at home for those not in urgent need of special attention. In any event my experience at this hospital shows that the need for more chronic sick hospitals

in the Transvaal is not great.

The Scottish Health Services hold that 'the problems of medical care of the elderly are more domiciliary than institutional and more problems of social medicine and of medical administration than of clinical medicine'.

As I suggested above a home-care service could with comparative ease, be put into practice in this country. At Philadelphia, Pa.(a plan for the home care of chronically-ill persons is reported to have been operating satisfactorily since 1949. The plan in essence is to employ general practitioners, specialists and nurses, together with visiting domestic aids, to care for patients at home. The plan is 'designed to permit the participating hospitals to use their beds to better advantage'.

Such a scheme might even be sponsored by the public. Johannesburg it does not appear to have been difficult to make a successful appeal to the public to contribute generously to the erection of an institution for the non-sick aged.

A point worthy of discussion is the question whether the uncomplicated senile incontinent needs to be admitted to a chronic sick hospital. Cleanliness is the paramount factor, and this can usually be satisfactorily achieved with the aid of a good servant. The aged ailing should not readily be condemned to an institution away from their normal and accustomed surroundings.

I am indebted to Dr. L. Feitelberg, the Superintendent of Edenvale Hospital for permitting this publication and allowing me the necessary facilities.

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ASSOCIATION NEWS: VERENIGINGSNUUS

MINUTES OF THE ANNUAL GENERAL MEETING OF THE ASSOCIATION AT KIMBERLEY

Following are the Minutes of the Annual General Meeting of the Medical Association of South Africa 1853; Technical College, Kimberley, on Thursday, 15 October 1953; Technical College, Kimberley, on Thursday, 15 October 1953; Medical Association of South Africa held in the Board Room,

L. I. Braun) presided and there were 42 members present. Twentysix proxies were handed in.

Notice Convening the Meeting, which had been published in the Journal of 19 September 1953, was taken as read.
 Minutes of the Annual General Meeting held in Johannesburg

on 22 September 1952, published in the *Journal* of 15 November 1952, were taken as read, *confirmed* and *signed*.

Annual Report of the Chairman of Council, which had been published in the Journal of 15 August 1953, was taken as read.
 The adoption of the Report was proposed by Dr. Sichel, seconded

by Dr. J. P. de Villiers and carried.

4. Financial Report and Balance Sheet, duly audited, which had been published in the Journal of 13 June 1953, was taken as read. The Honorary Treasurer (Dr. J. S. du Toit) made a few remarks and moved its adoption. This was seconded by Mr. J. A. Currie and carried.

5. Election of Auditors. It was proposed by the Honorary Treasurer, seconded by Dr. R. Theron and resolved that Messrs. Gurney, Notcutt & Fisher, of Cape Town, be appointed auditors for the year 1953 at a remuneration of £250 per annum.

6. Induction of President. Dr. Braun said that he appreciated greatly the honour which had been done both to him and his Branch by his election to the Presidency of the Association for the past year. It was the highest honour he had ever received in his life. In handing the badge of office to Dr. J. P. Collins, he said that he felt it was an honour well deserved by Dr. Collins. Dr. Collins had served the Association for very many years and had been a loyal and hard-working member of the Federal Council, well deserving of the office which was now to be his. Acclamation. He then invested Dr. Collins with the badge of office, saying that it gave him great pleasure to do so. Acclamation.

The incoming President then took the Chair and asked that the

remaining business on the agenda be disposed of. There being no further business, he then proceeded to express his appreciation of the honour bestowed on him, saying that he had had no idea when he was first elected to Federal Council that he might succeed

the illustrious holders of the office of President.

He called on Dr. Sichel to propose a vote of thanks to Dr.

Braun. In doing so, Dr. Sichel said that Dr. Braun had been an

ornament to the office he had held during the past 12 months. At the moment Dr. Braun was the most energetic and conscientious worker in the Association. In the Transvaal a great deal of work was thrown on Dr. Braun's shoulders and he had never protested but had undertaken everything willingly. He thanked Dr. Braun for his past services to the Association and thanked him also in anticipation of further services which he knew he would be only too willing to give. He proposed a vote of thanks to Dr. Braun, which was accorded with acclamation.

Dr. Braun thanked Dr. Sichel for his remarks and the members for their appreciation

There was no further business and the meeting was adjourned at 9.55 a.m., to be resumed in the evening.

ADJOURNED GENERAL MEETING

The meeting took place in the Town Hall, Kimberley, and commenced at 8.30 p.m

Dr. Collins called on the Mayor of Kimberley to address the

meeting.
The Mayor was received with acclamation. He stated that it was his pleasant duty to welcome to Kimberley the members of the Federal Council of the Association who were holding one of their meetings in the city. Those who were visiting Kimberley for the first time would find that they always received a very warm welcome when they came to the city. He mentioned that Kimberley was the centre of the second-oldest Branch of the Association. The first Medical Congress ever held in South Africa had taken place in Kimberley in 1893, and it was a remarkable coincidence that the Diamond Jubilee of that occasion should again be celebrated in the Diamond City. Acclamation.

He referred to the fact that the original Griqualand West Branch had included the Transvaal and that the present Transvaal Branches had developed from it. He then referred to the election of Dr. Collins as President of the Association, saying that Dr. Collins had been born and educated in Kimberley and that the Association had paid a great tribute to the city by holding its Diamend United Transvariant in Kimberley and elections of the Collins and paid a great tribute to the city by holding its Diamend United Transvariant in Kimberley and elections of the Collins and the Collins and Colli Diamond Jubilee meeting in Kimberley and electing a son of Kimberley as its President.

He said that he took the opportunity on behalf of the citizens of Kimberley, to congratulate Dr. Collins on the high honour bestowed on him. Dr. Collins was the first medical practitioner in Kimberley to have attained this high honour, and he hoped that he would not be the last. Acclamation. Once again he welcomed the members and expressed the hope that their deliberations in Kimberley would meet with success and that when they left the city they

would have happy memories of their visit. Acclamation.

Presentation to Dr. James Black. The Secretary (Dr. A. H. Tonkin) presented Dr. James Black to the President with the request that he present him with the Bronze Medal of the Association for distinguished services. Acclamation. The Secretary read the accompanying citation, and the President then presented the Bronze Medal to Dr. Black amid acclamation.

Presentation to Dr. L. I. Braun. The Secretary requested the President to present to Dr. L. I. Braun a miniature of the President's

badge of office. Dr. Collins presented this amid acclamation.

Presentation to Mrs. J. P. Collins. At the request of the Secretary,
Dr. Collins pinned the badge of the 'President's Lady' on Mrs. Collins, amid acclamation.

Presidential Address. Dr. Collins then presented his Presidential Address, prefacing it with the remark that he had that day reached the highest level in his career which he could attain. His Address was received with acclamation

On behalf of the Federal Council and the Association, Dr. Braun

thanked the President for his interesting Address.

Response. The Chairman of Council (Dr. A. W. Sichel) then said that it was his very pleasant duty to thank the Mayor for his welcome to members. Had it not been for this special occasion, it would probably not have been possible for the meeting to have been held in Kimberley. On behalf of his colleagues he thanked the Mayor heartily for coming to address them and for his very kind references to the Federal Council and the Association.

Dr. Collins declared the meeting closed at 9 p.m., after which refreshments were served.

OFFICIAL ANNOUNCEMENT: AMPTELIKE AANKONDIGING

HIGH COMMISSION TERRITORIES OF BASUTOLAND, THE BECHUANALAND PROTECTORATE AND SWAZILAND

The Federal Council has agreed to a request from the High Commissioner for Basutoland, the Bechuanaland Protectorate and Swaziland, that recipients of widows' and orphans' pensions from the High Commission Territorities Governments shall be eligible for treatment at Medical Aid Society rates, it being understood that the High Commission Territorities Governments will accept responsibility for payment of fees.

Persons so entitled to preferential treatment will be given a letter of authority from the Government Secretary of the High Commission Territory concerned.

A. H. Tonkin. Secretary

DIE HOË KOMMISSARISGEBIEDE BASOETOLAND, DIE PROTEKTORAAT BETSJOEANALAND EN SWAZILAND

Op versoek van die Hoë Kommissaris vir Basoetoland, die Protektoraat Betsjoeanaland en Swaziland, het die Federale Raad toe-gestem dat persone wat weduwee- en wesepensioene van die Regerings van die Hoë Kommissarisgebiede ontvang, behandeling teen Mediese Hulpverenigingtarief kan verkry, met dien verstande dat gemelde Regerings die verantwoordelikheid vir betaling van die gelde aanvaar.

Aan persone wat op hierdie voorkeurtarief geregtig is, sal magtigingsbriewe deur die Regeringsekretarisse van die betrokke Gebiede gegee word.

A. H. Tonkin Sekretaris

Mediese Huis Waalstraat 35 Kaapstad 4 Januarie 1954

Medical House 35, Wale Street Cape Town 4 January 1954

TRAINING IN GENERAL PRACTICE

memorandum by the General Practitioner Subcommittee of the Medical Student Council of the University of Cape Town states:

As so many of those entering medical schools are destined to enter general practice, there is no doubt that the bias of medical education should be towards the needs of the general Practitioner.

In which way is the future general practitioner prepared for his work? He is apprenticed to specialists and consultants. He is taught logical diagnosis and, within the limitations imposed by work in a hospital, treatment. But he learns little about general practice itself.

No one doubts that general practice must be built on the same foundation as any other branch of medicine and that all students must undergo a scientific training. It is, however, true that with existing teaching methods they remain unaware of the true nature of general practice and the essential differences between the care of patients in hospital and those in home surroundings. It is regrettable that the facilities available for this teaching are com-

pletely absent at this University.

We are taught—with one or two notable exceptions—by individuals who have had small experience in general practice. It cannot be expected that such people will stimulate an interest in general practice. As a result many students who might be happiest in, and do much to raise the low standard of general practice today are quite unaware of the opportunities for good and satisfying work that it offers.

At present newly-qualified doctors are well equipped with a theoretical knowledge of medicine but find it difficult to apply this knowledge satisfactorily in general practice. The lack of knowledge of its true nature has led to much frustration when the newly-qualified graduate leaves hospital practice for family doctoring

In Britain recognition of the seriousness of this problem has resulted in the establishment of various schemes which co-operate

with the general practitioners. Of the 28 medical schools in Britain, 14 already provide, and the remainder intend soon to provide, some opportunity for the teaching of medical students by General Practitioners.

THE SCHEME

The scheme suggested below is based largely on the one at St. Mary's Hospital, London. Each student in his final year should spend at least one week, preferably two weeks, with a general practitioner, and should report every morning from Monday to Saturday at the surgery, the idea being that he should attend the morning surgery and accompany the doctor on his visits. The general practitioners would be asked not to make any special arrangements on account of the presence of the student, and the

scheme would not interfere in any way with the routine of practice.

The student can of course assist the doctor in any way possible and the doctor is quite free to ask the student not to be present during the examination of patients who might resent the presence of a third party

A scheme like this would be of great value not only to students, but to the general practitioner himself. One doctor who participated in such a scheme in England said: 'I find it a stimulating experience to have someone to teach and I am sure that the presence of a potential critic must have a salutary effect upon the standard of one's work. The mere fact of discussion will operate to eliminate acts of omission which tend to creep in when handling frequent attenders at the surgery'.

There are many important differences between general practice and hospital practice which are thus emphasized by such schemes:

The facility with which the general practitioner must switch from one 'branch' to another after the increasing compartmentalism of hospital work;

The necessity to rely upon one's own senses in arriving at a diagnosis instead of upon the wholesale routine investigations

by ancillary departments which constitute the hospital diagnostic method;

- The vast amount of minor yet real disease which must be labelled and treated and which is largely outside the ken of the consultant
- The minor infectious ailments which may be the subject of examination questions but which are rarely seen in hospital;
- The experience required in predicting the natural history of a malady, particularly with reference to the spacing of one's visits;
- The value of attending to the organization of the practice so that time may be available for the 'long case' and leisure for the practitioner;
- The fact that the general practitioner does indeed treat organic disease despite opinions to the contrary held and disseminated by inexperienced hospital workers'.

DIFFICULTIES NOT INSURMOUNTABLE

There will be many difficulties in the inauguration of this scheme, but none, the authors are convinced, are insurmountable.

Six senior general practitioners practising within a three-mile radius of the medical school, were recently interviewed. All agreed that such a scheme was necessary and would do much to assist potential general practitioners.

A general-practitioner scheme is feasible in Cape Town, particularly if efforts were to be made by those in charge of our training in conjunction with the local branch of the Medical Association.

Arguments by the staff that general practitioners are not good instructors and that the curriculum is already full are best answered: 'Many practitioners are known to be capable of teaching and of teaching well but medical schools tend to lose touch with them. The curriculum has been full for the last 25 years without preventing the inclusion of many new subjects'

It has been said that the 'main strength of the profession lies in the confidence of ordinary folk in the doctor's surgery'. If the profession is to attract the best men into the ranks of general practice, the student must be shown what general practice is really like while still a student.

REFERENCES

Bamber, G. O. (1952): Brit. Med. J., 1, 490.

Holsen, W. (1952): Ibid., 1, 491.

Report of Undergraduate Education Committee of the College o General Practitioners (1953): Ibid., 1, 38.

PASSING EVENTS: IN DIE VERBYGAAN

The Journal of Clinical and Experimental Psychopathology will incorporate the fluarterly Review of Psychiatry and Neurology as from January 1954. The combined journals will continue to appear quarterly. The editors of both the amalgamated journals will continue to function with two editorial boards. journal is published by MD Publications, Inc., 30 East 60th Street, New York 22, and the price is £11.00 a year.

Dr. J. J. Prag, at present of the Pathology Laboratory, Frere Hospital, East London, C.P., has been appointed Director of Laboratory Services for Manitoba, Canada, and is leaving South Africa to take up his new appointment on 31 January.

UNION DEPARTMENT OF HEALTH BULLETIN Report for the nine days ended Thursday, 31 December 1953 Plague. Nil.

Smallpox. Orange Free State. The Native case in the Welkom municipal area, as notified in Bulletin No. 49 of 3 December 1953,

has now been established as not being smallpox.

Typhus fever. Orange Free State. No further cases have been reported from the Kestell municipal area since the notification in Bulletin of 3 December 1953. This area is now regarded as free from infection.

Epidemic Diseases in other Countries.

Plague: Nil.

Cholera in Calcutta, Madras, Nagapattinam, Tiruchirappalli; Tuticorin (India).

Smallpox in Bombay, Cochin, Delhi, Kanpur, Madras, Naga-pattinam (India); Haiphong, Hanoi, Saigon-Cholon (Viet-Nam); Phnom-Penh (Cambodia).

Typhus fever in Baghdad (Iraq).

NEW PREPARATIONS AND APPLIANCES: NUWE PREPARATE EN TOESTELLE

GUANIMYCIN

(ORAL STREPTOMYCIN WITH SULPHAGUANADINE)

Guanimycin combines streptomycin with sulphaguanadine for the treatment of infections of the gastro-intestinal tract. It is presented as a stable dry powder from which a smooth, palatable, homo-geneous suspension is made by the addition of water so that each fluid ounce contains streptomycin sulphate 0.25 g. and sulphaguanadine 2g.

Action. Although the results obtained with streptomycin administered orally in the treatment of gastroenteritis were impressive, it was realized that the use of streptomycin alone would be attended with the risk of the production of resistant strains. Streptomycin loses its effect from the survival of drug-resistant organisms, which are present in every strain. This may be counteracted by combining the streptomycin with another agent to which

the organism is sensitive.

When streptomycin is combined with a sulphonamide in the treatment of gastrointestinal infections, the development of resistant strains is inhibited.

As sulphaguanadine is not readily absorbed from the intestine, it is valuable in gastrointestinal infections and is the sulphonamide

of choice for combination with streptomycin.

Indications. Gastro-enteritis, infantile gastro-enteritis, bacillary dysentery, summer diarrhoea, salmonella food poisoning.

Dosage. For adults the dose is 1 fluid ounce 4 times a day at

4-hourly intervals. Infants and children may be given from 2 teaspoonfuls to \(\frac{1}{2} \) fluid ounce every 3 or 4 hours.

Guanimycin is supplied in bottles to prepare 4 fluid ounces by

Allen & Hanburys (Africa) Limited.

BOOK REVIEWS: BOEKRESENSIES

RESEARCH INTO FATIGUE

Symposium on Fatigue. (The Ergonomics Research Society) Edited by W. F. Floyd and A. T. Welford. (Pp. 196 with illustrations. 24s. 0d.) London: H. K. Lewis & Co. Ltd. 1953.

Contents: 1. Psychological Criteria of Fatigue. 2. Thermal Factors in the Environment which influence Fatigue. 3. Tropical Fatigue. 4. Tropical Fatigue. 5. The Effects of Fatigue on Tremor. 6. Some Effects of Prolonged Muscular Exertion. 7. The Physiological Background of Fatigue. 8. Experiments on Positive and Negative Work. 9. A Factor in Postponing the Onset of Fatigue. 10. Physiological Valuation of Work in Mykroppa Iron Works. 11. Muscular Potentials as Indicators of Effort in Visual Tasks. 12. Visual Fatigue with Special

Reference to Lighting. 13. Fatigue, Fact or Fiction. 14. Motivation in Measure ments of Fatigue. 15. Some Practical Problems of the Alertness Indicator. 16. Work Decrement in the Learning and Retention or Motor Skills. 17. Deterioration of Performance on a Short-term Perceptual-motor-Task. 18. Neglect of the Surroundings in Relation to Fatigue Decrements in Output. 19. Satiation and Frustration as Determinants of Fatigue. 20. The Psychologist's Problem in Measuring Fatigue. Appendix.

Fatigue is one of the most familiar of experiences and a term about the meaning of which the man in the street is not in any doubt. Scientifically, however, the concept has proved baffling and its meaning, even in such an apparently straightforward form as 'visual fatigue', has never been satisfactorily defined.

S. B.

R.E-D.

The Ergonomics Research Society, an association of anatomists, physiologists, psychologists, medical research workers and designers of equipment, whose membership is international, are to be congratulated on producing, so soon after their formation in 1949, a publication of considerable scientific merit on this difficult subject.

As, in the words of one contributor, 'the use of the word fatigue plunges both author and reader into a semantic morass', the paper in general make no attempt to analyse or define the concept but confine themselves to studies of some aspects of the undesirable but determinable changes in an activity which occur as a result of its continuing exercise.

Being the record of a symposium, the book lacks the comprehensive, orderly and consequential treatment one would expect to find in a text-book on the subject, but then it becomes clear, as one reads the many research papers that are included, that our knowledge is not yet sufficiently advanced and systematic to warrant the writing of a text-book.

writing of a text-book.

There are 3 excellent review articles on thermal factors, tropical fatigue and visual fatigue. Surgeon Commander Ellis's analysis of the determinants of tropical fatigue, many of which have nothing to do with climate as such, is particularly informative.

The majority of the papers deal with the consequences of physical effort, with muscle physiology and the nature and manifestations of deterioration in motor skills. Some of the research findings reported have immediate practical applications, as in an investigation of the effects of 'limbering up' on subsequent physical exercise; others make practical contributions to the technique of work investigations, such as the paper on physiological valuation of work, while important contributions are also made to instrumentation in fatigue research.

In the psychological papers, little time is devoted to subjective fatigue. They are mostly concerned with fundamental analyses of skilled performance in which the language and concepts, leaning heavily on communications engineering, are unfamiliar to the uninitiated reader. The limited objective of this research has been to clear the way for a definite attack upon the problem of the human mechanisms underlying the various types of fatigue effect, and it has only just reached 'the end of the beginning'.

While the book is of primary interest to the ergonomic research worker, there is much in it that is of value to the practitioner of tropical social medicine, those working in the field of industrial medicine and public hygiene, research physiologists, production engineers and any psychologist interested in the expanding boundaries of his subject.

TROPICAL DISEASES

Clinical Tropical Diseases. By A. R. D. Adams and B. G. Maegraith. (Pp. 508+x with 65 figures. 40s.) Oxford: Blackwell Scientific Publications. 1953.

Contents: 1. Ainhum. 2. Amoebiasis and Other Intestinal Protozoal Infections.
3. Ancylostomiasis. 4. Bacillary Dysentery. 5. Bartonellosis. 6. Blackwater Fever. 7. Chigoe Flea. 8. Cholera. 9. Dermatomycoses and Scabies. 10. Desert Sore and Cutaneous Diphtheria. 11. Dracontiasis. 12. Epidemic Dropsy. 13. Filariases. 14. Heat and Light, Clinical Effects of. 15. Leishmaniases. 16. Leprosy. 17. Leptospirosis. 18. Lymphopathia Venereum. 19. Malaria. 20. Melioidosis. 21. Miscellaneous Worm Infestations. 22. Mycetoma Pedis. 23. Myiasis and Vesicant Beetles. 24. Nutritional Disorders. 25. Pinta. 26. Plague. 27. Rabies. 28. Rat-Bite Fevers. 29. Relapsing Fevers. 30. Schistosomiases. 31. Sickle Cell Trait and Sickle Cell Anaemia. 32. Smallpox. 33. Snake Bite, Scorpion Sting. Spider Bite. 34. The Sprue Syndrome. 35. Trachoma. 36. Tropical Eosinophilia. 37. Tropical Myositis. 38. Tropical Phiebitis. 39. Tropical Ulcer. 40. Trypanosomiases. 41. The Typhoid Fevers. 42. The Typhus Fevers. 43. Ulcerating Granuloma of the Pudenda. 44. Undulant Fevers. 45. Virus Fevers. 46. Yaws. 47. Yellow Fever. Index.

It is indeed pleasant to see that the Liverpool School of Tropical Medicine has at long last produced a text-book on this subject. When such a text-book is titled with two such well-known names as A. R. D. Adams and B. G. Maegraith, the book is sure to have a wide appeal. Readers of the *Tropical Diseases Bulletin* will be very familiar with the abstracts produced by both these authors. This is an indication as to their encyclopedic knowledge of the subject and, when it is put over in such a pleasant and readable form, one cannot be anything but enthusiastic.

This work will in future be standard text and a popular one. It is a book which should be read by every practitioner in Africa and, what is more, should be on his shelves for easy reference.

CLINICAL CHEMICAL PATHOLOGY

Clinical Chemical Pathology, By C. H. Gray, Dsc., M.D. (Pp. 138 + v. 10s. 6d.) London: Edward Arnold & Company. 1953.

Contents: 1, Renal Function. 2. Acid-base Balance. 3. Fluid Balance—Oedema. 4. Fluid Balance—Salt Deficiency and Water Deficiency. 5. Liver Function. 6. Laboratory Tests in Liver Disease. 7. Blood-Sugar. 8. Calcification. 9. Clinical Aspects of the Digestion and Absorption of Fats. 10. The Chemical Pathology of the Alimentary Tract. 11. Biochemical Tests in Endocrine Disease. 12. Miscellanca. Appendix. Index.

Professor Gray's little book is based on his course of lectures to medical students at King's College Hospital. His object is to provide at a reasonable price the basic information leaving out things which are chiefly of interest to the chemical pathologist. The emphasis is therefore on the application of chemical pathology to clinical problems. To cover this restricted field in a little over a hundred small pages is a feat of condensation which is achieved at the expense of simplification, and it is the author's plea that he may be found guilty of sins of omission rather than sins of commission. Except for an occasional misprint his plea can be accepted.

Diabetes and diabetic coma are treated relatively fully because the chemical changes here include so many aspects of the subject sugar, fat, protein, water and electrolytes—and thus serve as a resume of a large field. Professor Gray is known for his researches in bilirubin metabolism and he devotes 2 chapters to this and to liver disease.

There are some excellent diagrams and an appendix on side-room testing and on concerted plans for the chemical investigation of special clinical problems.

This little book may well have its place in the pocket of the student and houseman. It should be very useful in revision and in the practical application of knowledge gathered from larger sources. It should also suit the needs of nurses and technicians, but it is hardly likely to fill the needs of registrars or postgraduate students. A useful and reliable but rather elementary book.

G.C.L.

EDEN'S OBSTETRICS

Eden and Holland's Manual of Obstetrics. By Alan Brews, M.D., M.S., M.R.C.P., F.R.C.S., F.R.C.O.G. (Pp. 812 with 377 illustrations. Tenth Edition. 52s. 6d.) London: J. and A. Churchill Limited. 1953.

377 illustrations. Tenth Edition. 52s. 6d.) London: J. and A. Churchill Limited. 1953.

Content: Part I. Normal Pregnancy. 1. Sex Cycles, Ovarian and Uterine. 2. Sex Hormones, Ovarian, Pituitary and Placental. 3. Maturation and Fertilization of the Ovum. 4. Early Development of the Zygote (Fertilized Ovum). 5. Implantation of Zygote and Decidual Formation. 6. Formation and Fertilization, Blood Formation and General Physiology in the Foetus. 9. The Gravid Uterus. 10. Maternal Physiology in the Foetus. 9. The Gravid Uterus. 10. Maternal Physiology in the Foetus. 9. The Gravid Uterus. 10. Maternal Physiology. 11. Diagnosis. 12. Normal Duration. 13. Multiple Pregnancy. 14. Antennatal Care. Part II. Abnormal Pregnancy. 13. Multiple Pregnancy. 14. Antennatal Care. Part III. Abnormal Pregnancy. 18. Uterine Moles. 19. Extra-Uterine (Ectopic) Gestation. 20. Infections of the Urinary Tract. 21. Anaemias. 22. Blood Incompatibilities. 23. Glycosuria: Diabetes Mellitus. 24. Pre-Eclampsia. 25. Essential Hypertension. Chronic Nephritis. 26. Eclampsia. 27. Jaundice: Icterus Gravidarum. 28. General Disorders. 29. Disorders of the Genital Tract. 30. Disorders of the Developing Ovum. Part III. Normal Labouw. 31. Onset. 32. Stages. 33. Anatomy and Physiology of First and Second Stages. 34. The Foetus. 35. The Forces. 36. Anatomy and Physiology of First and Second Stages. 34. The Foetus. 35. The Forces. 36. Control of Pain. 40. Uterine Stimulants. 41. Delivery of the Foetus and Placenta. 42. Nursing Care after Delivery. Part IV. Abnormal Labour. 43. Occipitor-Posterior Positions of the Vertex. 44. Face and Brow Presentions. 45. Breech Presentations. 46. Transverse Lie. 47. Twin Labour. 48. Prolapse of Cord and Limbs. 49. Pelvic Contraction? Actions of Pain. April. Presention. 57. Ante-Part Will. The Foetus. 65. Pulmonary Respiration. 66. Peri-Natal Asphyxia (Foetal and Noonatorum). 67. Intra-Uterine and Post-Projon. 54. Abnormality of Uterine Action. 55. Obstructed Labour. 56. Maternal Injuries in Parturition. 57. Ante-Part Will. T

The text has been subject to considerable revision and modernization. Much that was slavishly copied from one edition to the next, often the only apparent reason for retention being that it was previously there, has been rightly discarded.

Generally the coloured plates are of good standard and aid emphasis. Improved histological sections illustrate the early development of the embryo and good-quality X-ray plates have replaced some anatomical pictures.

No real criticism can be raised against part I on normal pregnancy, but under antenatal care, in addition to checking weight, urine and blood pressure, the reviewer would like to see mention

made of oedema

Abnormal pregnancy raises one or two points where opinions differ strongly. The writer, in the section on 'Immediate Evacuation of the Uterus', advocates the use of a blunt flushing-curette to remove debris and decidua. The reviewer disagrees, because of the high incidence of unrecognized perforation in the hands of the inexperienced and occasional operator. The use of oxytocics before plugging or, preferably, immediately after dilatation would make for the more ordered and systematic treatment of abortion. The toxaemias are well covered, but on rapid reading an initial surgical toxaemias are well covered, but on taphs to to to toxaemias are well covered, but on taphs to be given to the treatment of eclampsia. Subsequent reading reveals this not to be the writer's intention. The use of hypertonic glucose should be given more, and that of saline less,

Prolapse of the cord might be looked upon more surgically if immediate delivery is not possible, but under limited conditions the replacement methods may have a place. A ruptured uterus can, and sometimes should, be conserved for future child-bearing.

This book fulfils to a major degree its stated intention of presenting the Art and Science of Obstetrics within a reasonable compass and in easily readable form. The self-imposed restrictions implied in this intention may have given rise to some of the criticisms.

NEW INFORMATION ON BACTERIOLOGY

Bacterial and Mycotic Infections of Man. Edited by René J. Dubos, Ph.D. Second Edition. (Pp. 886 + xiv, with 98 illustrations. 60s.) Philadelphia; London; Montreal: J. B. Lippincott Company. 1952.

Lippincott Company, 1952.

Comtents: 1. A Synopsis of the History of Medical Bacteriology, 2. The Morphology and the Physiology of Bacteria. 3. Parasitism and Disease. 4. Properties of Bacteria which Enable them to Cause Disease. 5. Response of the Host to the Parasite. 6. Serology and Immunochemistry. 7. Human Blood Groups. 8. The Allergic State. 9. The Diphtheria Bacilli and the Diphtheroids. 10. The Pneumococci. 11. The Streptococci. 12. The Mycobacteria. 13. The Staphylococci. 14. The Anthrax Bacillus. 15. The Clostridia. 16. The Enteric Bacteria. 17. The Salamonella. 18. Bacillary Dysentery and the Shigella. 19. Pasteurella. 20. The Brucella. 21. Listeria and Erysipelothrix. 22. The Cholera Vibrios. 23. The Hemophilus Group. 24. The Pertussis Group. 25. The Menigococci. 26. The Gonococci. 27. The Spirochetes. 28. The Bartonella Group. 29. Streptobacillus Moniliformis. 30. The Pleuropneumonia Group. 31. The Actinomycets. 32. Medical Mycology. 33. Bacteria Indigenous to Man. 34. Principles of Sterilization. 35. Principles of Chemotherapy. 36. Principles of Sterilization. 37. Principles of Chemotherapy. 36. Principles of Sterilization. 37. Principles of Sterilization. 37. Principles of Sterilization. 38. Principles of Sterilization. 38. Principles of Sterilization. 38. Principles of Sterilization. 39. Principles of Sterilization.

The first edition of this book quite rightly had an excellent reception and it is comforting to see that the editor René Dubos is determined to keep it abreast of the rapid increase of knowledge with another

edition after 4 years.

This new edition has the same structure as its predecessor but many sections have been rewritten and much new information has been added to the text. New names included among the distinguished contributors are Jacques Mondo (bacterial genetics and physiology) Philip Levin (blood groups) and Walsh McDermott

(chemotherapy).

It should not be imagined that this is only a text-book of bacteriology for medical students. On the contrary, though it serves most admirably for this purpose, it is a most readable treatise on the facts and problems relating to the parasite and the host in infectious disease, and should be a constant source of information to every practising physician and to every medical laboratory

There are 37 chapters covering a very wide variety of subjects. A certain ambiguity, however, is apparent in the chapter headings for if some are to be called 'The Streptococci' or 'The Glostridia it seems almost inevitable that others should be called 'The Salmonellae' or 'The Brucellae,' and not 'The Salmonella' and 'The Brucella' as they appear. Another point should be drawn to the attention of the editor of this book to be corrected in the next edition. In the section on Tetanus on page 400 it states in relation to the unit of antitoxin '....an International Standard Unit equivalent to one half an American Unit....' but in fact this refers to the 1929 unit, and the International Unit (1950) is equiva-

lent to 2 International Units (1929) and is therefore the same as the American Unit. But these minor criticisms do not in any way detract from the general excellence of the book.

The price of the book is still most reasonable as a result of the grant received from the National Foundation for Infantile Paraivsis Inc., and once again the publishers are to be congratulated on their contribution to the publication.

BACTERIAL PHENOMENA EXPLAINED

Basic Bacteriology: Its Biological and Chemical Background. By Carl Lamanna, Ph.D. and M. Frank Mallette, Ph.D. (Pp. 677 + xiv, with illustrations. 67s. 6d.) London: Baillière, Tindall & Cox Limited. 1953.

Contents: 1. The Scope of Bacteriology. 2. The Occurence and Taxonomy of Bacteria. 3. General Properties of Bacteria. 4. Microscopy. 5. Dyes and Staining. 6. The Structure of Eubacteria. 7. Surface Properties of Bacteria. 8. Growth of Bacteria. 9. Enzymes and Bacteria. 10. Physical Factors Affecting Bacteria. 11. Nutrition of Bacteria. 12. The Variation and Genetics of Bacteria. 13. Bacterial Metabolism. 14. Chemical Disinfection. Appendix. Index.

A well-known bacteriologist and biochemist have combined to write this book on 'the nature of the cytological, morphological, toxonomic, physiological and biochemical problems which confront the bacteriologist'. The result, as may well be expected, is excellent.

The book covers an exceedingly wide range and includes much basic chemical, physical and general biological information which the advanced student of bacteriology will find very useful. Indeed, I know of no bacteriological text which deals with the subject-matter that may be found in this volume.

All textbooks in the past have dealt systematically and didactically with the observed properties of different bacteriological species, and the emphasis has always been on practical and immediate problems of diagnosis. Information at a more advanced level had to be sought for in the current literature and in monographs.

This book is intended by the authors to bridge the gap between the elementary and the very advanced. Factual knowledge is

subjugated to ideas and principles.

The list of contents indicates the scope of the volume. Each section is dealt with most comprehensively and the authors' claim to attempt 'to explain bacterial phenomena rather than to just state them' is everywhere borne out. The explanations carry the reader into the realms of basic scientific principles and disciplines.

At the end of each chapter a list of recent references for further

reading may be found.

The book is thoroughly recommended to the serious and the advanced worker in bacteriology.

DISEASES OF CHILDREN

A Handbook on Diseases of Children. By Bruce Williamson, M.D., F.R.C.P. (Pp. 467 + xi, with 103 illustrations. Seventh Edition. 21s.) London: E. and S. Livingstone Ltd. 1953.

Edition, 21s.) London: E, and S, Livingstone Ltd. 1953.

Comtents: Introduction. 1. Diseases of the Respiratory System (Contd.). 3. Diseases of the Respiratory System (Contd.). 4. Diseases of the Respiratory System (Contd.). 4. Diseases of the Respiratory System (Pleura.) 5. Disorders of the Upper Respiratory Tract. 6. Disorders of the Heart and Circulation. 7. Disorders of the Heart and Circulation (Contd.). 8. Diseases of the Alimentary System (Contd.). 10. Disorders of the Endocrine Glands. 11. Disorders of Nutrition and Metabolism. 12. Diseases of the Blood and Lymphatic System. 13. Vasomotor and Trophic Disorders. 14. Disorders of Muscles. 17. Common Skin Disorders of Biosorders of the Eyel. 19. Organic Diseases of the Nervous System. 20. Organic Diseases of the Nervous System (Contd.). 21. Organic Diseases of the Nervous System (Contd.). 22. Functional Nervous Disorders. 24. Rheumatism and Rheumatoid Arthritis. 25. Tuberculosis. 26. Syphilis and Gonococcal Infection. 27. The Common Fevers of Childhood. 28. Artificial Feeding. Formulary. Index. Formulary. Index.

This handbook on children's ailments has now reached the 7th edition, a measure of its popularity and the constant revision to which the work has been subjected. There are several additions to the text reflecting recent advances in paediatrics and the subject matter has been brought up to date. The format is unchanged from that of previous editions and, as in the past, at the head of each chapter is tabled the contents therein, thus facilitating easy reading and ready reference. Brevity is the keynote of this volume; nevertheless, little of importance has been omitted from it.

To be commended is the author's frequent use of tables, which present in concise form several important features such as the diagnosis of common congenital heart anomalies, smallpox contra chickenpox lesions, normal and abnormal cerebrospinal fluids, the standard heights and weights for infants and children, and the various sulphonamides in common use with observations on their relative advantages, disadvantages and dosage. The illustrated page devoted to neonatal anomalies of the oesophagus and the sections on nutrition and treatment deserve special mention. Under 'Formulary' may be found valuable information on therapeutics, including the indications for and the mode of administration and dosage of various antibiotics; also a number of old favourites among prescriptions, although it is surprising still to find grey powder and castor oil advocated for the treatment of gastroenteritis.

The volume is well illustrated and contains several excellent colour plates, some of which depict the exanthemata of certain communicable diseases. Among the common infectious diseases, however, one would have liked to find some reference to that common ailment, so often undiagnosed or misdiagnosed, Roseola Infantum (Exanthem Subitum). Bruce Williamson's handbook is concise and, within its limits, thorough. It is recommended to the busy practitioner as a book for ready reference and to the student as an excellent introduction to modern paediatrics and a basis for more detailed study of the subject.

W.E.

DIE ALKOHOLIS

Die Alkoholis. Deur Marty Mann. (Bl. 176, 12s, 6d.) Johannesburg: Afrikaanse Pers Boekhandel. 1953.

Inhous: 1. Alkoholisme en sy Oorsake. 2. Wat is 'n Alkoholis? 3. Wie is 'n Alkoholis? 4. Wie is Nie 'n Alkoholis nie? 5. Hoe Kan ek seker wees dat X werklik 'n Alkoholis is? 6. Die Tuis-behandeling, 7. Alkoholiste kan Herstel. 8. Mediese Behandeling, 9. Teësinbehandeling, 10. Psijastriese Behandeling, 11. Sanatoriumbehandeling, 12. Leke-terapie. 13. Alcoholisc Anonymous. 14. Hoe om Teenoor die Alkoholis opt et tree. 15. Wat die Alkoholis Self kan doen. 16. Wat Elkeen van ons kan doen. 17. Daar is Hoop vir die Alkoholis. Boekelys.

Hierdie boek deur mev. Mann is werklik baie welkom. Gedurende verlede jaar het sy Suid-Afrika besoek en 'n lesing gelewer met die gevolg dat haar sienswyse geensins onbekend is nie. Daar moet op gelet word dat die probleem van alkolisme so 'n indruk by haar geskep het dat sy nie versuim het om haar boek dadelik in Afrikaans te laat vertaal nie.

Mev. Mann beskou alle vorms van alkoholisme as 'n siekte. Hierdie begrip sal nie deur alle medici gesteun word nie-alkoholisme is 'n simptoom van verkseie emosionele verstorings en die alkoholis 'n siek mens. Dit is egter te eenvoudig om alkoholisme as 'n siekte te beskou.

Die menslike opvatting van die skryfster is nietemin verfrissend en dit is van groot belang in hierdie land dat ons soveel moontlik van hierdie probleem verstaan: 'n probleem wat meer ingewikkeld gemaak word deur twee aspekte-die Europeaan en die van die meer primitiewe nie-blanke.

Mev. Mann wys hoe die Alcoholics Anonymous nuwe hoop kan bring in die lewe van die hopelose alkoholis en dit is van groot belang dat alle doktors en sosiale werksters die werk van hierdie groot groep bestudeer en verstaan.

Dit is met volle vertroue dat ek hierdie boek aanraai tot almal wat meer wil weet van alkoholisme: in die woorde van wyle dr. Karl Bremer wat die voorwoord tot hierdie boek geskryf het, "In hierdie insig en begrip lê die hoop van die alkoholis."

J. Mac W. Mac G.

THE BRAIN SURGEON

Brain Surgeon—An Autobiography. By William Sharpe. (Pp. 244, 16s.) London: Victor Gollancz Limited. 1953.

16s.) London: Victor Gollancz Limited, 1953,
Contents: 1. Boyhood. 2. Incredible Harvard. 3. A Young Man Goes to Europe.
4. I Deliver Five Babies. 5. An Intern Encounters Fractured Skulls. 6. Harvey
Cushing. 7. An American Surgeon in China. 8. Operation on Chinese Royalty.
9. Nothing is Surprising in China. 10. Emily and Others. 11. New Light on
Cerebral Palsy. 12. The Fight with 'Expectant Palliative'. 13. Neurosurgery on
Trial. 14. A Nick Becomes a Surgical Discovery. 15. A Hospital is Almost Born.
16. Knowledge from Five Hundred Babies. 17. Nobody Likes to Puncture
Babies. 18. Mother and Sons. 19. I Meet Hitler and Stalin. 20. You Can't Use
a Scalpel on Emotions. 21. Men and Meals. 22. The Hammocks. 23. Some
Painful Memories. 24. Diagnoses—Good and Bad. 25. Pan-American Medical
Association. 26. Pan-American Hospital. 27. Life is What you Make It.
28. Author's Publications' Bibliography.

This hospital is the Mospital of Staling Stali

This book falls into the category of popular literature, but nevertheless contains much of interest to the medical reader. There are

numerous anecdotes relating to world figures and, among these, those dealing with personalities like Cushing make fascinating reading. The vignettes of student life at Harvard and in Germany throw an instructive sidelight on student affairs at the turn of the century.

It is a pity that the author did not spend more time in China, because, in many respects, the short passages dealing with that country are of particular interest.

The latter parts of the book, although of great interest and containing several stimulating reflections by the author, are not as absorbing as the earlier pages. The author's medical opinions are presented in a form more suitable to the layman than to the more critical among medical readers, so that the book has no scientific value. This book can be recommended to any readers interested in the recent history of medicine and in the philosophic reflections of an obviously unusual figure in the practice of medicine.

SURGICAL EXAMINATION

Physical Examination of the Surgical Patient. By J. Englebert Dunphy, M.D., F.A.C.S. and Thomas W. Botsford, M.D., F.A.C.S. (Pp. 326 + xiv with 188 figures. £3 3s.) Philadelphia and London: W. B. Saunders Company. 1953.

and London: W. B. Saunders Company. 1955.

Contents: Part One: The Elective Examination. 1. The Leaven of the Physical Examination. 2. Examination of the Head and Neck. 3. Examination of the Inguinal and Femoral Regions and the Male External Genitalia—the Different Diagnosis of Hernia. 6. Examination of the Abdomen. 7. Examination of the Abdomen of Infants and Children. 8. Examination of the Extremities. 9. Special Examinations of the Peripheral Blood Vessels. 10. Ulcer and Gangrene of the Extremities. 11. Examination of the Spine and Hips. 12. Examination of the Fernale External Genitalia and Pelvis. 13. Examination of the Anus and Rectum. Part Two: The Emergency Examination. 14. General Principles in Examination of the Injuried Patient. 15. Injuries of the Head and Face. 16. Injuries of the Thoracic Wall. Heart and Lungs. 17. Abdominal Injuries. 18. Injuries of the Kidney, Bladder and Urethra: Fractured Pelvis. 19. Injuries of the Spine and Extremities. Bibliography. Appendix. Index.

This hook increases the number of works dealing with a times.

This book increases the number of works dealing with a timeworn but nevertheless important subject. The method of presenta-tion is good, the illustrations particularly instructive and the whole subject is very comprehensively revealed. Of greater value, attention is focussed on a number of aspects of physical examination not usually well dealt with.

The simple approach throughout adds very greatly to the value of this book, which is of considerable use to anyone engaged in clinical practice and, more particularly, in the teaching of medical

J.F.P.E.

THE SPLEEN

Hypersplenism and Surgery of the Spleen. By William Dameshek, M.D. and C. Stuart Welch, M.D. (Pp. 84, with Figures. \$10.00). New York: Grune & Stratton, Inc., 1953. This book is set out in a form entirely different from that taken

by the usual treatise. Throughout it presents the relevant information in tabulated form and wastes no words. As far as the reader can judge, it condenses in a very short space more information on the subject than is to be found in very wordy, lengthy volumes.

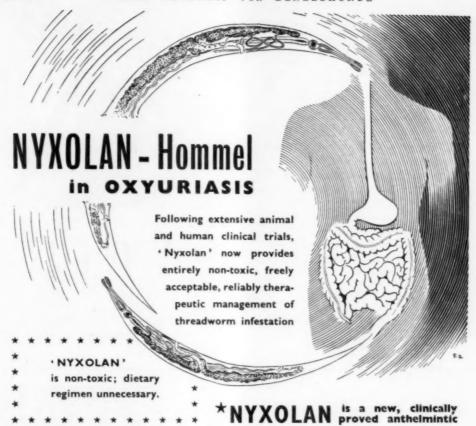
In its own class this book must surely stand by itself and its possession is a 'must' for anyone directly or indirectly interested in this particular aspect of surgery, medicine and physiology.

VITAMINS

The Vitamins in Medicine. By Franklin Bicknell, D.M., M.R.C.P. and Frederick Prescott, M.Sc., Ph.D., F.R.I.C., M.R.C.P. Third Edition. (Pp. 784 + vii, with 245 illustrations. 70s.) London: William Heinemann Medical Books Limited. 1953.

Contents: 1. Vitamin A. 2. Vitamin B Complex. 3. Vitamin Bt (Aneurine, Thiamin). 4. Riboflavine. 5. Nicotinic Acid (Niacin). 6. Vitamin C (Ascorbic Acid). 7. Vitamin D (The Antistachitic or Calcifying Vitamin). 8. Vitamin E (The Antisterility or Antidystrophic Vitamin; Alpha, Beta, Gamma- or Delta-Tocopherol). 9. Essential Unsaturated Fatty Acids; Vitamin F and other Minor Fat-Soluble Vitamins. 10. Vitamin K. 11. Vitamin P. Index.

This book can justifiably be regarded as the doctor's source of reference in matters related to Vitamins. There should have been a chapter on what we understand by vitamins. It is always usefur eto state the nature of the thing under discussion. The reviewe



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The book is a mine of information. The references which in the previous edition numbered 4,500 are now 5,500; and the illustrations, all good, have been increased by 25%

In the case of each vitamin we have an introductory historical chapter. The chemistry and the methods of detection and estimation of the vitamin are dealt with, and its physiology, and, naturally, the clinical picture. In addition there is a list of the sources of the vitamin. On page 223 there is a useful section on Conditioned Vitamin Deficiency. What is said here in connection with aneurine applies equally well to all the other vitamins, and should stand in the general introductory chapter advocated earlier in this review

On page 219 the statement is made concerning the pulse in the beri-beri heart that it is small, rapid and thready. Lower down on the same page, we are told that there is an increased pulse pressure with warm extremities, indicating general arteriolar dilatation. This must confuse the uninformed reader. The truth of the matter is that although the latter description is what may be called the classical one, the pulse does not always conform and may, in fact, not rarely-at certain stages at any rate-be actually hypertensive. The point in the criticism is that this variability should be stated as such.

For South Africans it is interesting to note that the tocopherols are capable of inhibiting the toxipathic liver necrosis due to protein deficiency and that maize contains chiefly y-tocopherol, the least effective of the tocopherols in this respect, a point not mentioned in this book. The interjection, 'probably cystine', in connection with the amino-aciduria in the Fanconi syndrome could easily mislead, because, although there is an interesting cystine metabolic disturbance in this condition it is not associated with cystinuria. These criticisms are made with the hope that these few errors will be corrected in future editions. We have here an excellent book

of 784 pages and a reviewer could, unless he makes his purpose clear, appear to condemn a book when, in fact, he strongly recommends it.

HISTOCHEMISTRY

Histochemistry: Theoretical and Applied. By A. G. Everson Pearse, M.A., M.D., D.C.P. (Pp. 530 + viii, with illustrations. 60s.) London: J. and A. Churchill Limited. 1953.

Contents: 1. The History of Histochemistry. 2. The Chemistry of Fixation.
3. Preparation of Tissues by Freeze-Drying. 4. Proteins and Amino-Acids.
5. The Histochemistry of Some Important Simple Proteins. 6. Conjugated Proteins (Nucleoproteins). 7. Carbohydrates. 8. Lipids and Lipoproteins. 9. Aldehydes and Ketones. 10. Enzymes I (Alkaline Phosphatases). 11. Enzymes II (Acid Phosphatases). 12. Enzymes III (Other Esterases and the Glycosidases). 13. Enzymes IV (Oxidases and Dehydrogenases). 14. Enzymes as Histochemical Reagents. 15. Pigments. 16. Inorganic Constituents. 17. Physical Methods. Appendices. Author and Subject Index.

The great developments in biochemistry in the past 40 years have not only found application in clinical medicine but have also directed attention to fundamental problems concerning the chemical aspects of structural and functional organization of tissues. The chemist's approach is essentially an analytical one, involving as a rule destruction of tissue, whereas the histologist has been mainly concerned with the application of chemical knowledge to intact cells and tissues.

Although histochemistry is more than 100 years old it is only in recent years that it is beginning to obtrude itself as a science indispensable to biologist and pathologist alike.

Dr. Pearse's book on histochemistry is yet another contribution to this rapidly-growing field. In this volume an attempt is made to examine the theoretical basis of established and of recently introduced histochemical procedures and to assess their validity. On the basis of his own experience with various techniques Dr. Pearse has recommended those which are likely to be of immediate value to the histologist and to the pathologist.

For those wishing to attempt the more complex procedures approximately 80 pages are devoted to a series of detailed instructions as to how the tests should be carried out and what results are to be expected. This part of the book will be useful to students who are anxious to acquaint themselves with the problems and methods of histochemistry.

There are, however, throughout the book, numerous instances in which the author is obviously not cognizant of the subtleties and complexities of particular problems in cell-physiology. In some instances the author uses the camouflage of dogmatic assertion and intolerance of views put forward by investigators who have given considerable thought to the problems in question. Even in the presentation of the histochemical 'recipes' there is a strange admixture of the alchemy of the old histologist with the precision of the chemist.

Taken as a whole, the book contains no new point of view and at most can be regarded as a useful compilation of current develop-ments in histochemistry. The book can be recommended to practizing pathologists and will be a source of useful information to biochemists who wish to apply their knowledge to chemical problems as they exist in cells and tissues.

RE-EDUCATION IN HEARING

The New Way to Better Hearing. By Victor L. Browd, M.D. (Pp. 252 + xii, 12s.). London: Messrs. Fabor and Fabor. xii, 12s.). London: Messrs. Faber and Faber. Limited, 1953.

1. What is hearing Contents: Introduction. Publisher's Note. Part One. 1. What is hearing re-education? 2. Sound and the ear. 3. Damages to the hearing machine and their effects. Part Two. 4. The purpose and principles of hearing re-education. 5. Preliminary steps in hearing re-education. 6. Hearing re-education for wearers of a hearing aid. 7. Instructions to the patient. 8. Instructions to the assistant. 9. The practice sessions. 10. Special applications of the hearing re-education programme. Part Three. Appendices.

This work is written in non-technical terms so that not only the medical practitioner but also those who are hard-of-hearing may understand the nature of their affliction. Dr. Browd has presented simply and clearly everything the reader should know about sound, the human hearing apparatus and hearing disorders. Unique features are the series of demonstrations and charts and the hearing questionnaire which define and show graphically each patient's hearing problem.

According to the author, whether hearing troubles are great or small, whether one wears a hearing aid or not, poor understanding is the root of one's hearing problem. Hearing re-education utilizes the hearing one already possesses and converts the unused and troublesome parts of it into useful and comfortable hearing.

As hearing re-education progresses so does tinnitus, always a difficult complaint to treat, become less troublesome and even at times disappears

The author states that the first principle of hearing re-education is the recognition of the fact that appreciable amounts of unused hearing power exist in all deaf persons and that this power can be converted into useful hearing.

Hearing re-education requires a few minutes each day and although, particularly in the beginning, professional attention is advisable, it is not indispensable in the majority of cases and the patient, with the aid of this book and a friend or relative can accomplish a great deal in a comparatively short time.

The presentation of the hearing re-education system itself consists of clear, simple instructions and complete programmes for all types of hearing impairment.

H.C.W.

TREATMENT OF HAND INJURIES

Surgery of Repair as Applied to Hand Injuries. By B. K. Rank, M.S., F.R.C.S., F.R.A.C.S. and A.R. Wakefield, M.S., F.R.C.S., F.R.A.C.S. (Pp. 255 with 188 figures, 40s.). Edinburgh: E. and S. Livingstone, Limited, 1953.

E. and S. Livingstone, Limited, 1953.

Contents: Part One: General. 1. The Social significance of hand injuries.

2. Surgical anatomy of the hand. 3. Organisation in relation to hand injuries.

4. The Examination and appraisal of a recently injured hand. Part Two. Primary treatment. 5. General considerations of primary treatment for open hand injuries.

6. Methods of wound closure as applied to the hand. 7. Tidy hand wounds and their common sub-types. 8. Unitely wounds and their common sub-types. 8. Unitely wounds and their common sub-types. 10. Unitely wounds and their common sub-types. 11. General considerations of secondary treatment. 12. Sear disabilities of the hand. 13. Secondary repair of deep structures. 14. Unsatisfactory amputation stumps and elective re-amputations. 15. Reconstructive procedures for mutilating injuries. Part Five. Special aspects of hand injury. 16. The burnt hand. 17. Hand injuries in children. 18. Hand prosthesis. Index.

When it is pointed out that approximately one in every three injuries treated in a Casualty Department of a city hospital involves the hand, one realizes the increasing value of the slowly growing literature on the surgery of the hand. One also appreciates that what was once the 'no man's land of surgery' has become the field of 'Combined operations' by the accident surgeon, the orthopaedic surgeon and the plastic surgeon. The hand surgeon must be the master of the three techniques.

The authors of this excellent monograph make it clear that they are directing their chief attention to primary repair of open injuries for if that is successful, the results are so much better than from the involved procedures required in secondary reconstructions. Also, they do not wish to reduplicate work already well covered by others in relation to closed injuries and fractures.

Their assessment, organization and technique in the treatment of the early injury is worthy of study by all, and the results shown will be envied by most.

The secondary treatment of hand injuries is less comprehensively described and they refer the reader to more detailed works by Bunnell and others.

In the days when hand surgery was dominated by infection, the surgical anatomy was focussed on Kanavel's description of fascial planes, tendon sheaths, and the optimum sites of incision.

In an instructive chapter the authors point out that the emphasis has now changed. Major hand sepsis has become comparatively rare, and instead, they give an account of their knowledge and experience of anatomy as related to repair and reconstruction rather than sepsis and destruction.

There are special chapters on hand injuries in children, on the burnt hand, and on hand prosthesis, all of which, though brief, give a lead on these aspects of the problem.

The book is liberal in practical advice, e.g. the labourer must be given a strong and stable hand, but for the skilled worker one must recover finger tip control and delicate independent finger move-

This book, short, well written and beautifully illustrated, should be available to every surgeon dealing with hand injuries.

CORRESPONDENCE : BRIEWERUBRIEK

THE CAUSE OF ESSENTIAL HYPERTENSION

To the Editor: Dr. Menof in his letter of 12 December¹ does not quote my letter of 14 November² correctly. What I stated was, 'I have for some years, and on some hundreds of corrections. Thave for some years, and on some hundreds of cases, carried out in every case four tests with iodine¹³¹ as a routine, including the conversion ratio. Later on in my letter I refer to more anomalies in Table 2 of McGirr & Hutchison's article but I add 'But they do not indicate that there was anything wrong with the tests. They indicate that the thyroids of these patients function abnormally

What, incidentally, is Dr. Menof's objection to correlating the results of the tests with the clinical picture? Does not one have to do this with every test, however simple, whether it be merely taking a temperature or a blood pressure or the most complicated tests such as estimation of ketosteroids? Does not one have to correlate with the clinical picture the most simple of X-ray findings or the most complicated. One cannot visualize any test of any description in the whole field of medicine in which the test has not to be correlated with the clinical picture and be either rejected or repeated if it does not fit in with the clinical picture

Dr. Menof also misinterprets the quotation from Bloomberg & Lazarus's article⁸. Thus after pointing out that the radio-active iodine uptake test measures the turnover of iodine in the gland, and that the PBI is a measure of the amount of hormone actually secreted by the thyroid gland, they go on to state, 'It must be emphasized that neither of the above methods for assessing thyroid function supplants the determination of the basal metabolic rate. They then quote Cope's statement that 'these two methods, with the BMR, which measures oxygen consumption (and therefore the final rate of hormone action on the tissues) give 3 sequential views of the secretory activity of the thyroid gland' and they say, 'This sums up very clearly the complementary nature of these three different procedures.

Dr. Menof interprets Bloomberg & Lazarus's statement to mean that the radio-active iodine and protein-bound iodine tests are no more accurate than the BMR. Thus Dr. Menof states, 'Aware of the difficulties inherent in this last procedure (BMR) and the poor regard in which it is held by most clinicians, I can only conclude we have as yet no satisfactory method of measuring the activity of this gland'. This is not what Bloomberg & Lazarus meant to convey. In fact, in their article they discussed the difficulties associated with the BMR test.

The greater accuracy of the radio-iodine tests for thyrotoxicosis over the BMR has been demonstrated time and again. (Harsha4, Kriss⁶). So convinced of this are some authorities that the radioiodine tests have been substituted for the BMR at the Presbyterian Hospital, New York. In a masterly review of the whole subject of radio-iodine tests, Werner, et als, state (page 1072), 'As a result of the studies presented herein, a program is under way at the Presbyterian Hospital to substitute the tracer technic measuring the 24-hour uptake for the basal-metabolic-rate determination as the initial routine laboratory screening procedure in diagnosis of thyroid disorder.

The protein-bound iodine estimation (PBI) has been regarded in American literature as corresponding in accuracy to the radio-active iodine tests (Sheline et alⁿ) but the PBI estimation is a much more difficult laboratory procedure (Harsha4), and does not lend tself to several automatic checks as the radio-active iodine tests do.

In the thyroid clinics in England the radio-iodine tests are done as a routine; the PBI is not.

There are occasions when all the tests available may have to be done to diagnose the clinical condition. This is the whole point of McGirr & Hutchison's article. They state that by doing a number of radio-iodine tests instead of one test they discovered the extraordinary anomaly that the radio-iodine uptake test alone would have indicated that the non-endemic goitrous cretin is hyperthyroid, whereas the urinary excretion of radio-iodine indicated the true condition that they were hypothyroid because their thyroids did not convert the iodine into thyroxine.

Moreover, although it may not be necessary in the straight-forward hyperthyroid case to do all the available thyroid function tests including the BMR, the latter may be essential, for instance in cases such as thyrotoxicosis factitia, where, although the clinical picture is that of hyperthyroidism and the BMR is very high, the radio-iodine uptake is low, and in this way the diagnosis is established (Means⁹, Weinbren¹⁰).

Dr. Menof's conclusion, 'We have as yet no satisfactory method of measuring the activity of this gland', is surely incorrect when eminent workers in this field's state (page 1068), 'Analysis of the data presented (Studies C and D above) reveals that a combination of several methods of testing thyroid function may result in a high degree of accuracy in the diagnosis of normal thyroid activity' They claim that the radio-iodine tracer technique with the basal metabolic rate will give about 95% degree of accuracy, and if the PBI test is added the probability of error in diagnosis is narrowed even further

Dr. Menof's plea that thyroid function tests, including the radioiodine tests, are inaccurate, is therefore no justification for not doing any tests at all on essential hypertension cases. The thyroid function tests would have helped to show what scientific basis there is for his results in the treatment of essential hypertension with thyroid, and the repeat tests at the end of courses of treatment would have provided valuable information whether the amount of thyroid administered by Dr. Menof suppressed the function of the thyroid gland, as the prolonged taking of thyroid does in cases of thyrotoxicosis factitia.

M. Weinbren

X-ray Department Chamber of Mines Hospital Johannesburg 1 January 1954

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Provinsiale Administrasie van die Kaap die Goeie Hoop

> HOSPITAALDEPARTEMENT WOODSTOCK HOSPITAAL

Aansoeke word ingewag vir een pos van Ere-geneesheer. Sluitingsdatum 6 Februarie 1954. (10726)

Provincial Administration of the Cape of Good Hope

> HOSPITALS DEPARTMENT WOODSTOCK HOSPITAL

Applications are invited for one post of Honorary Medical Practitioner. Closing date 6 February 1954. (10726)

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE

Candidates wanted for course Diploma in Tropical Medicine and Hygiene at the University of the Witwatersrand, scheduled to commence on 1 February 1954.

Please contact the Assistant Registrar, Medical School, Hospital Hill, Johannesburg. Phone 44-1492.

SHARE IN PARTNERSHIP REQUIRED

Young general practitioner, married, with eight years G.P. experience would like a share in partnership, preferably in Johannesburg. For details write to 'A.U.A.', P.O. Box 643, Cape Town.

KAAPSTAD : CAPE TOWN

Posbus 643, Telefoon 2-6177: P.O. Box 643, Telephone 2-6177

PRAKTYKE TE KOOP: PRACTICES FOR SALE

(1280) Ciskei rural practice. Gross receipts £3,151. Premium required £1,500 including instruments, large stock of drugs, fittings and furniture. Terms available. Knowledge of Native language not essential.

(1399) Transkei. Unopposed prescribing practice. Cash receipts 1950/51/52—£3,887 18s. 10d., £4,814 2s., £5,064 5s. 6d. Two appointments. Practically no night work. Premium required £2,200. Large house for sale at £2,300. Jeep also offered for sale. Terms possible.

(1436) Goedgevestigde Karoo-praktyk. Ontvangste ongeveer £3,000 p.j. D.S. en M.O.H. aanstellings. Koopprys £1,500 wat voorrade insluit. Gerieflike woning met spreekkamers beskikbaar teen besonder billike huurgeld.

(1487) Plattelandse praktyk sonder opposisie geleë in mooi omgewing. Kontantontvangste ± £2,400. Koopprys van £1,250 sluit klandisiewaarde, alle geneesmiddels, instrumente en meubels in. Paaiemente aanvaardaar. Goeie woonhuis en spreekkamers te huur teen £7 10s. p.m. DIT IS 'N UTTSTEKENDE GELEENTHEID OM 'N GOEIE PRAKTYK IN 'N MOOI OMGEWING TE BEKOM.

FOR IMMEDIATE SALE

Country practice about 40 miles from Port Elizabeth. Details on application.

ASSISTENTE/PLAASVERVANGERS VERLANG ASSISTANTS/LOCUMS REQUIRED

(1516) S.W.A. Locum from first week in January or mid-January until end of May. Salary £2 12s. 6d. p.d. plus car and hotel accommodation provided and first-class return train fare. Partnership practice.

(1524) Karoo hospitaaldorp. Assistent so gou moontlik. Salaris vir die eerste 3 maande £75 p.m. (word hersien daarna) plus vry losies en kartoelaag.

(1563) Transkei village. Assistant from mid-February. Definite view to partnership. Mainly native but some European work, Car not essential. Terms to be arranged.

DURBAN

112 Medical Centre, Field Street. Telephone 2-4049

PRAKTYKE TE KOOP: PRACTICES FOR SALE

(PD23) Natal. Prescribing practice particularly suitable for a woman doctor interested in obstetrics and gynaecology. Total gross receipts for 1950, £1,570; 1951, £1,595; 1952 (6 months), £1,340; 1953 (3 months), £382. Premium £1,250, includes furniture, fittings, instruments, drugs and existing book debts.

(PD24) Natal South Coast. Practice suitable for doctor who does not want full-time work. £250 for drugs, dressings, instruments, etc. No charge for goodwill. Small house on \(\frac{1}{2}\) morgen, £1,600. Immediate occupation.

LOCUMS REQUIRED

(72) Durban, Locum required for January and February with view to assistantship. General practice. Salary to be discussed with the Principal.

(73) Near Durban. Locum for January and February. £2 12s. 6d. per day, all found. Must have own car.

(74) Zululand. Locum for February. £2 12s. 6d. per day. all found. Own car necessary.

(75) Durban. 1 January. Locum view toassistantship/partnership. General practice. Salary to be discussed.

JOHANNESBURG

Medical House, 5 Esselen Street, Telephone 44-9134-5, 44-0817 Mediese Huis, Esselenstraat 5, Telefone 44-9134-5, 44-0817

PRACTICE FOR SALE : PRAKTYK TE KOOP

(Pr/S100) Hospital town in Southern Rhodesia. Established private practice. Takings approximately £500 p.m. Will suit doctor interested in surgery and gynaecology. Premium required is £1,000 (excluding instruments and equipment) and terms could be arranged to suit buyer. Long introduction will be given. BUYER COULD START IMMEDIATELY AS LOCUM.

ASSISTANTS/LOCUMS REQUIRED ASSISTENTE/PLAASVERVANGERS BENODIG

(L/V424) O.F.S. Locum for three weeks in January or February. Non-European practice, with no night work. Terms and allowances to be discussed.

(L/V477) O.V.S. Plaasvervanger vir Februarie. Salaris £100 p.m. en alles vry.

(L/V486) O.V.S. Plaasvervanger vanaf 26 Mei tot 1 Augustus. £2 10s. per dag, alles vry en 'n kar kan verskaf word. Amper geen nagwerk. Huis beskikbaar vir getroude persoon. Sal ook 'n dame pas.

(L/V487) O.V.S. Plaasvervanger vir Februarie. Kar word verskaf. Salaris £2 12s. 6d. per dag en alles vry.

(L/V489) Reef. Locum for February. Salary £3 10s, per day. No night work.

(L/V445) O.V.S. Plaasvervanger vir April. Salaris £2 12s. 6d. per dag, alles vry en 1s. per myl in distrik, reistoelae.

(L/V499) O.V.S. Plaasvervanger vir April. Salaris en toelaes om gereël te word. Sal dame ook pas.

(L/V505) Reef. Partnership practice. Locum as from 13 January till 24 February. Salary, etc. to be arranged.

(L/V506) Tvl. Plaasvervanger vir Maart. Min nagwerk. Man of dame. $2\frac{1}{2}$ ghienies per dag en alles vry.

(L/V507) O.V.S. 80 myl van Rand. Plaasvervanger vir een maand, enige tyd. Salaris £3 3s. per dag en alles vry.

(L/V508) Tvl. Plaasvervanger vir twee maande. Kan enige tyd begin. Salaris, ens. om gereël te word.

(L/V509) Mine Medical Officer. Salary £100 p.m. plus £15 p.m. C.O.L.A., free house and servant and the use of the company's

City of Port Elizabeth

HEALTH DEPARTMENT VACANCY: ASSISTANT TUBERCULOSIS OFFICER

Applications are invited for the position of Assistant Tuberculosis Officer in Grade £900 x £50-£1150 per annum. In addition to the salary a cost of living allowance, at present £288 per annum, will be payable if the appointee is a married male.

If the appointee is single, a cost of living allowance will be paid where the salary of such appointee does not exceed £936 per annum.

Applications should state qualifications, earliest date duty can be assumed, whether applicant is in receipt of a pension, and experience, in which modern methods of tuberculosis treatment is essential.

Further particulars may be obtained from the Medical Officer of Health.

Closing date 30 January 1954.

Municipal Notice No. 8, 8 January 1954.

G. H. Brewer, Town Clerk (0400/70)

City of Cape Town

VACANCY FOR RESIDENT MEDICAL OFFICER, BROOKLYN HOSPITAL FOR CHEST DISEASES

Applications are invited from registered medical practitioners under 45 years of age for the above position at a commencing salary of £900 per annum on the salary scale £900 x 50—£1150, less £226 per annum for quarters, rations, light, fuel and laundry, plus temporary non-pensionable cost of living allowance at the rates approved by the Council from time to time, and which at present on the above commencing salary, amounts to £301 13s. 7d. per annum at married rate and £36 per annum at single rate.

Experience in modern methods of treatment of tuberculosis will be a recommendation.

The successful applicant will be required to devote the whole of his/her time to the service of the Council and the appointment will be subject to the provisions of Municipal Ordinance No. 19 of 1951, the Standing Orders and regulations of the Council and the conditions of service as laid down in the Municipal Staff Code, all as amended from time to time.

Applications in duplicate on the prescribed forms obtainable from the Senior Staff Officer, 2nd floor, Municipal Buildings, Longmarket Street, Cape Town, should reach him not later than 31 January 1954.

Canvassing of Councillors will be a disqualification.

M. B. Williams Town Clerk City Hall, Cape Town

6 January 1954

Public Service Vacancies

1. The attention of Medical Practitioners registered with the South African Medical and Dental Council is drawn to an advertisement appearing in the Government Gazettes of 15, 22 and 29 January 1954, inviting applications for the undermentioned

posts:—		
Post Assistant Medical Super- intendent (Durban and Pietermaritzburg)	Salary scale £1680	Department or Administration Natal Provincial Administration
Assistant Medical Super- intendent (Pietermaritz- burg)	£1560	Natal Provincial Administration
Research Officer in Physical Education	£1380	Education, Arts and Science.
Member: Silicosis Medical Bureau (Johannesburg)	£1380	Mines.
Medical Officer (on contract	£900 x 50-1150	Health.

2. In addition to basic salary a cost of living allowance at the rate of £234 per annum is at present payable to married officers except in the case of the Medical Officers on contract to whom a cost of living allowance at the rate of £320 per annum for married and £100 per annum for unmarried officers is payable.

williamstown and Knysna)

3. It is emphasised that full particulars of qualifications and previous experience must be furnished but original certificates and testimonials should not be submitted. Application forms Z.83 and PSC. 8(a) are obtainable from the department-administration indicated to whom filled in forms must be addressed.

4. The closing date for the receipt of applications is 20 February 1954.

(44023)

Government of Northern Rhodesia

VACANCIES FOR MEDICAL OFFICERS IN THE HEALTH DEPARTMENT

Applications are invited for several immediate vacancies for Medical Officers (General Duties) in European and African Hospitals.

Qualifications. Applicants must be doctors who are British subjects and who possess qualifications registerable in the United Kingdom.

Salary. £870 x 35-975; 1,020 x 45-1,335 x 45-1,695.

Point of entry into the scale depends on the previous experience and war service, if any, of the applicant.

A cost-of-living allowance on a graded scale varying between £114 on £870 and £195 10s. on £1,695 is payable at present.

Terms of Appointment. Selected candidates will, in the first instance, be engaged on agreement for three years with the possibility of admission to the permanent and pensionable establishment. The agreement is terminable by Government at the control of the permanent with the properties of the permanent and pensionable and the permanent at the p any time by three months notice or payment of one month's salary, and by the officer on the same terms at any time after three months service.

Transport on Appointment. Free first class rail fares are provided for the officer, wife and dependent children under the age of 21 from place of engagement to Northern Rhodesia. Assistance towards the cost of transporting heavy baggage is also given.

Free medical attention within Northern Rhodesia, generous leave privileges and housing at sub-economic rent are provided; full particulars can be obtained from the Director of Medical Services, P.O. Box 205, Lusaka.

AP. 17/2

Transvaalse Provinsiale Administrasie

VAKATURES BY PUBLIEKE HOSPITALE

Aansoeke word ingewag van kandidate met geskikte kwalifikasies vir die onderstaande poste by Publieke Hospitale in die Transvaal. Aansoeke moet gerig word aan die Geneeskundige Super-intendent of Verantwoordelike Geneesheer van die betrokke hospitaal en moet volle besonderhede bevat aangaande die ouderdom, professionele, akademiese en taalkwalifikasies, ondervinding en huwelikstaat van die applikant en moet voorts 'n aanduiding bevat van die vroegste datum waarop diens aanvaar kan word:-

Lewenskostetoelae tans betaalbaar aan voltydse werknemers:--

Salaris	Lewenskostetoelae		
	Getroud	Ongetroud	
	Oor £350	£320 p. j.	£100 p. j.

Van persone wat aangestel word, sal verwag word om bevredigende sertifikate in te dien, asook om hulle te onderwerp aan 'n geneeskundige ondersoek by die betrokke hospitaal.

Aansoekvorms is verkrygbaar van enige Transvaalse Publieke Hospitaal of die Provinsiale Sekretaris, Afdeling Hospitaaldienste, Posbus 2060 Pretoria.

Benewens jaarlikse salaris en lewenskostetoelae ontvang voltydse werknemers spoorwegkonsessie en word verlof toegestaan ooreen-komstig die hospitaalverlofregulasies.

Die sluitingsdatum van aansoeke vir die poste is 1 Februarie 1954.

Hospitaal	Pos	Emolumente	Opmerkings
Baragwanath Hospitaal- bestuur en die Universiteit van die Wit- watersrand	Assistent Radioloog (1)	£1200 x 50- 1500	Geregistreerde mediese praktisyn hoër kwalifikasies in Radiologie 'n aanbeveling.
Pretoria	Ongevalle	£620-780-	Geregistreerde

mediese praktisyn Beampte (1) 820-860

(44015)

Consulting Rooms Available

T.O. Building, 95, Simmonds Street, Braamfontein, Johannesburg.

Consulting rooms specially adapted for use by medical practitioner or dentist.

- Ample parking space
- Close to bus stop
- Splendid prospects

Apply to: The General Secretary, T.O., P.O. Box 8307, Phone 44-0959, Johannesburg.

Provincial Administration of the Cape of Good Hope

HOSPITALS DEPARTMENT HOSPITAL BOARD SERVICE: VACANCY

1. Applications are invited from registered medical practitioners for appointment to the following vacant post:—

Institution	Post	Emoluments	Closing date	Applications to be addressed to
Wynberg Orthopaedic and Convalescent Hospitals, Cape Town	Medical Practitioner Grade C (Medical Super- intendent)	£1,000 x 50- £1,200 p.a.	3.2.54	The Director of Hospital Services, P.O. Box 2060, Cape Town.

2. Conditions of service are prescribed in terms of Hospital Board Service Ordinance No. 19 of 1941, as amended, and the regulations framed thereunder.

 In addition to the salary indicated, a cost-of-living allowance at rates prescribed from time to time by the Administrator is payable to wholetime officials and employees.

4. The successful candidate will be required to occupy, free of charge, an unfurnished house or quarters provided at the institution or alternatively, if a house or quarters are not available, to occupy a house approved by the Department in respect of which the Department will contribute an amount of not exceeding £180 per annum towards the rental.

 The successful candidate, if not already in the Hospital Board Service, will be required to submit satisfactory birth and health certificates.

6. Application must be made on the prescribed form (Staff 23) which is obtainable from the Director of Hospital Services, P.O. Box 2060, Cape Town, or from the Medical Superintendent of any Provincial Hospital or Secretary of any School Board in the Cape Province.

Candidates must state the earliest date on which they can assume duty.

(A 562892)

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T.O.-gebou, Simmondstraat 95, Braamfontein,
Johannesburg.

Spreekkamers spesiaal ingerig vir geneesheer of tandarts.

- Volop parkeerplek
- Naby bushalte
- Goeie vooruitsigte

Doen aanvraag by: Die Algemene Sekretaris, Posbus 8307, Telefoon 44-0959, Johannesburg.

Provinsiale Administrasie van die Kaap die Goeie Hoop

HOSPITAALDEPARTEMENT HOSPITAALRAADSDIENS: VAKATURE

Aansoeke word ingewag van geregistreerde geneeshere vir aanstelling tot die volgende vakante pos:—

Inrigting	Pos	Emolumente		Aansoeke moet gerig word aan
Wynberg, Geneesheer Ortopediese Graad C en Herstel- lingshospi- tale, Geneesheer Graad C (Mediese Super- intendent)		3.2.54	Die Direkteur van Hospitaal- dienste, Posbus 2060, Kaapstad.	
Kaanstad	*			

2. Die diensvoorwaardes word voorgeskryf ingevolge die Ordonnansie op Hospitaalaradsdiens nr. 19 van 1941, soos gewysig, en die regulasies wat daarkragtens opgestel is.

en die regulasies wat daarkragtens opgestel is.

3. Benewens die salaris soos aangedui is 'n lewenskostetoelae betaalbaar aan voltydse beamptes en werknemers teen bedrae wat van tyd tot tyd deur die Administrateur vasgestel word.

4. Van die geslaagde kandidaat sal dit vereis word om 'n ongemeubileerde huis of kwartiere wat by die hospitaal verskaf word gratis te bewoon, of as 'n huis of kwartiere nie beskikbaar is nie, 'n huis te bewoon wat deur die Departement goedgekeur is ten opsigte waarvan die Departement 'n bedrag van hoogstens £180 per jaar tot die huur sal bydra. Kandidate moet bereid wees om in die begin deur die Kaapprovinsie te reis vir offisiële doeleindes.

 Die geslaagde kandidaat, indien nie reeds in die Hospitaalraadsdiens nie, moet bevredigende geboorte- en gesondheidsertifikate indien.

6. Aansoek moet gedoen word op die voorgeskrewe vorm (Staf 23) wat verkrygbaar is by die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige Provinsiale Hospitaal of by die Sekretaris van enige Skoolraad in die Kaapprovinsie.

7. Applikante moet die vroegste datum meld waarop hulle diens kan aanvaar. A 562892)

Rhodesia Railways

VACANCY FOR MEDICAL OFFICER

Applications are invited from registered medical practitioners for the post of Railway Medical Officer, Bulawayo, from 1 April 1954

or earlier, if possible.

Salary: £1,400 per annum for first three years which is a probationary period. Thereafter on the scale £1,450 × £50 to £1,750—£1,850 × £50 to £2,200 per annum, subject to efficiency barriers. Variable cost of living allowance (at present 20%) and children's allowance payable.

Leave: 40 days vacation leave per annum (accumulative) plus 30 days long service for each completed period of four years' continuous service.

Experience: Previous Hospital, General Practice, Anaesthetic and Midwifery experience essential.

Duties: Duties are chiefly those of a general practitioner and include conducting an African Clinic and other duties as allocated by the Chief Medical Officer.

They do not include the attendance on hospitalised patients. Housing: Unfurnished house provided at a rental of approxi-

mately £10 per month.

Transport: Transport allowance of £25 per month payable. Further information and particulars supplied to suitable appli-

Applications, accompanied by copies of recent testimonials, stating age, qualifications, previous experience, marital state, nationality, birthplace and name of two persons to whom reference can be made, should be forwarded to the Chief Medical Officer, Rhodesia Railways, P.O. Box 792, Bulawayo. M.D. 504.

Liesbeek Clinic

LIESBEEK ROAD, ROSEBANK, CAPE TOWN

The Cancer Clinic Association wishes to inform Medical Practi-tioners that the name "Cape Cancer Clinic" has been changed to "Liesbeek Clinic". The Association wishes to point out that, in accordance with its Articles of Association, not only malignant disease but also other conditions the study or treatment of which may be of value in the study of the cancer problem may be at-tended to at the Liesbeek Clinic. The impression among the public that only cancer patients are accepted at the Liesbeek Clinic is therefore not in accordance with the facts. For further information write to the Secretary of the Liesbeek Clinic, Lies-beek Road, Rosebank, or telephone 69—4024.

Provincial Administration of the Cape of Good Hope

HOSPITALS DEPARTMENT

VACANCY: MEDICAL STAFF

Applications are invited from registered medical practitioners for appointment for a period of 1 year to the post of Medical Practitioner, Grade A, on the staff of the Livingstone Hospital, Port Elizabeth, with salary at the rate of £500-600-660-720 per annum.

In addition to the rate of pay indicated a variable cost-of-living allowance at rates prescribed from time to time by the Administrator of the Province, is payable. (Current rates: Married men, £320 per annum; Others, £100 per annum).

The privileges of free board, quarters and laundering are not

attached to this post.

The conditions of service are prescribed by the Hospital Board Service Ordinance No. 19 of 1941 (Cape) and the regulations framed

The duties of the incumbent of this post will be primarily those of Pediatrician and experience in this work will be a recommend-

Applications must be made on the prescribed form (Staff 23), which is obtainable from the Medical Superintendent of the Provincial Hospital, Gipson Road, Port Elizabeth, to whom applications must be addressed to reach his office not later than 6 February 1954.

J. H. McLean Medical Superintendent

Port Elizabeth 6 January 1954

(10400)

Provincial Administration of the Cape of Good Hope

VACANCIES FOR HONORARY MEDICAL OFFICERS

Applications are invited from registered medical practitioners for appointment to the undermentioned posts at the Frere Hospital, East London:

Number of Posts Designation

Honorary Physician (Paediatrics)

Honorary Ear, Nose and Throat Surgeon

The appointment, conditions of service, and remuneration attached to the abovementioned posts shall be subject to the provisions of the regulations promulgated under Provincial Notice No. 553 of 1953.

Applications must be made on the prescribed form, which is obtainable from the Medical Superintendent, Frere Hospital, P.O. Box 13, East London, to whom all completed forms must be addressed.

The closing date for the receipt of applications will be 30 January

Provinsiale Administrasie van die Kaap die Goeie Hoop

VAKATURES VIR ERE-MEDIESE BEAMPTES

Aansoeke word ingewag van geregistreerde mediese geneeshere vir aanstelling tot die volgende poste by die Frere-Hospitaal, Oos-Londen:

Benoeming Getal Poste Ere Internis (Paediatries)

Ere Oor-, Neus- en Keel- chirurg

Die aanstelling, diensvoorwaardes en besoldiging aan bogenoemde poste verbonde sal onderworpe aan die regulasies afgekondig by Provinsiale Kennisgewing nr. 553 van 1953 wees. Aansoeke moet gedoen word op die voorgeskrewe vorm, wat

verkrygbaar is by die Mediese Superintendent, Frere-Hospitaal, Posbus, 13, Oos-Londen, aan wie alle ingevulde vorms gerig moet

Die sluitingsdatum vir ontvangs van aansoeke sal 30 Januarie 1954 wees. (17708)

Liesbeek Kliniek

LIESBEEKWEG, ROSEBANK, KAAPSTAD

Die Kanker Kliniek Vereniging wens Mediese Praktisyne mee te deel dat die naam "Kaapse Kanker Kliniek" nou na "Liesbeek Kliniek" verander is. Die Vereniging wil onder u aandag bring dat ooreenkomstig die statute nie alleen kwaadaardige siektes maar ook ander siektes waarvan die studie of behandeling van waarde sal wees in die bestudering van die kankerprobleem, by die Kliniek behandel kan word. Die indruk dat alleenlik pasiënte wat aan kanker ly by die Liesbeek Kliniek toegelaat kan word is derhalwe onjuis. Vir verdere besonderhede skryf kan word is derhalwe onjuis. Vir verdere besonderhede skryf aan die Sekretaresse, Liesbeek Kliniek, Liesbeekweg, Rosebank, of telefoneer 69—4024.

Louwsburg-Dorpsbestuur

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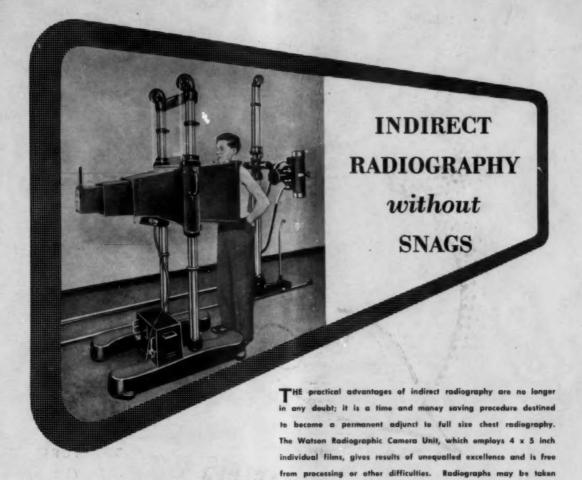
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